

AUGUST '59

# MODERN TEXTILES

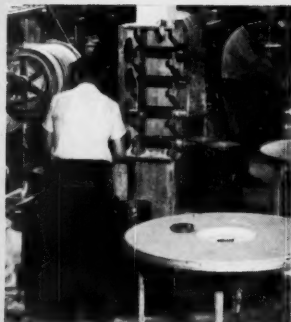
MAGAZINE

*Specializing in Man-Made Fibers and Blends since 1925*

FIBERS

FABRICS

FINISHES



United Elastic's  
HAROLD CONANT

looks to new  
products for  
better profits—  
story page 31

## THIS MONTH:


All about Textured Nylon

New Polyester Fiber Data

Improved Yarn Dyeing

New Wet Processing Chemical

AND 14 MORE USEFUL ARTICLES AND TIMELY REPORTS



**266,000 Miles...** a recent performance record achieved by a Draper Tru-Mold Shuttle. This shuttle was in continuous operation for over 20,800 hours and was still in running condition when removed from the loom. While these figures are impressive, they are even more amazing if we consider the number of times the shuttle was boxed and thrown. A quality shuttle coupled with proper care and handling make records of this type possible. For shuttles that last longer ...give better performance...use Draper Tru-Mold Shuttles.



**DRAPER CORPORATION**

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"We had a problem . . .  
SONOCO solved it!"



## THE NEED: Special lacquers to resist coning oils

A Sonoco customer wound a quantity of yarn on lacquer-tipped cones and then stored the finished packages. During the months of storage the coning oil attacked the lacquer tip causing the lacquer to bleed on the yarn. Additionally, the cone wrap stuck to the lacquer and pieces of paper were left on the tip when the wrap was removed. These conditions caused the yarn to snag and break during the take-off.

Sonoco research chemists, because of past experience with similar problems, promptly developed a new type lacquer

which will prevent a reoccurrence of this problem when the same oil is used.

Developments of this nature are "all in a day's work" at the Sonoco research laboratory. If you have similar problems, consult your Sonoco representative.

Only Sonoco, with its completely integrated manufacturing facilities and its research and development departments, is in a position to render this vital service to the textile industry. You can depend on Sonoco's 60 years' experience and leadership.



# SONOCO

## Products for Textiles

SONOCO PRODUCTS COMPANY

# MODERN TEXTILES

August, 1959 Vol. 40, No. 8

MAGAZINE

## Modern Textiles Magazine Established 1925

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**Rayon Publishing Corporation**  
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## The Principal Trade Groups

American Association of Textile Chemists and  
Colorists ..... Lowell Techn. Inst., Lowell, Mass.  
American Association for Textile  
Technology, Inc. .... 100 W. 55th St., New York  
American Cotton Manufacturers Institute,  
Inc. .... 1501 Johnston Bldg., Charlotte, N. C.  
American Cotton Manufacturers Institute, Inc.  
Man-Made Fibers and Silk  
Division ..... 10 East 40th St., New York  
American Rayon Institute  
350 Fifth Avenue, New York  
Man-Made Fiber Producers  
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Silk and Rayon Printers and Dyers Ass'n  
of America, Inc. .... 1450 Broadway, New York  
Synthetic Organic Chemical Manufacturers  
Association ..... 41 E. 42nd St., New York  
Textile Distributors Institute,  
Inc. .... 469 Seventh Ave., New York

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MORE THAN 3½  
MILLION SPINDLES  
NOW EQUIPPED WITH  
ROBERTS HIGH DRAFT

# ROBERTS SPINNING ★ NEWS ★

PUBLISHED BY  
ROBERTS COMPANY  
SANFORD,  
NORTH CAROLINA

WM-2

SANFORD, NORTH CAROLINA, U. S. A.

1959

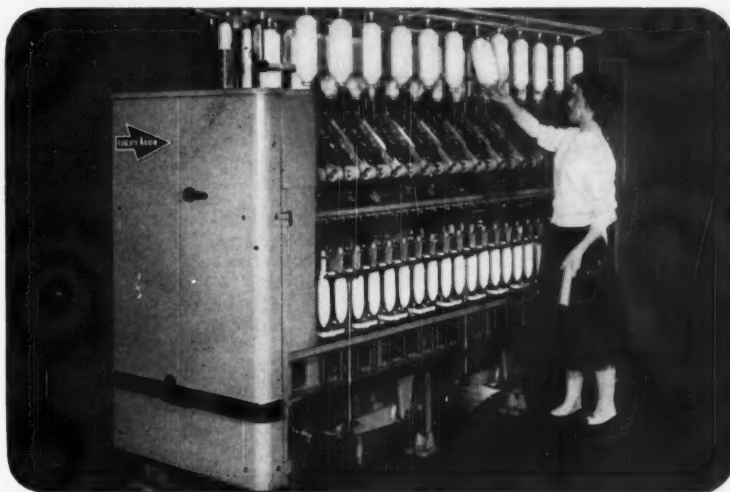
## ARROW WM-2 LONG FIBER SPINNING FRAMES OFFER WIDEST YARN MAKING VERSATILITY

A dynamic program of new product design, advanced styling and aggressive merchandising is underway by all segments of the Textile Industry.

Knitting yarns of higher quality and greater interest are being called for in worsted, synthetics and blends. Finer weaving yarns up to 2 ply 80's are being called for and a great many blends are currently being explored. The longer fibers are in wide demand and the next few years should see a substantial boom in this field.

The demand for high bulk knitting yarns and the finer weaving yarns plus all of the newer fabric effects being created require fiber lengths from 3 to 8 inches long.

ARROW WM-2 frames are suitable for making yarns in any fiber length from 1½ to 8 inches. They provide great versatility in handling 100% synthetics, blends of synthetics, 100% worsteds and blends of worsted with synthetics in this range. Better quality yarns with greater evenness, bigger package sizes and higher production speeds are produced on ARROW frames.



- Spins yarn from any natural or synthetic fiber or any blend.
- PermaSet Drafting handles any fiber length from 1½ to 8 inches
- No roll setting changes needed at any time
- Great versatility for changing yarn numbers, twist, draft, ring size, and spindle speed
- Drafts as high as 24 on worsted, 60 on synthetic
- Produces yarn with better evenness and greater breaking strength
- Ball bearing top and bottom rolls eliminate all lubrication in drafting zone
- Almost ideal spinning conditions from delivery roll to spindle
- Runs at higher front roll, traveler and spindle speeds
- Reduces ends down by more than 50%
- Puts twice as much yarn on the bobbin as older frames
- 12-inch bobbins reduce winding costs
- Very rugged, most durable machine ever built for yarn spinning
- Frame is built in the wide-stance 36-inch width
- Uses ball bearings at every moving, turning or oscillating motion
- Substantially lowers electric power consumption
- AeroCreel for single or double roving
- Frame arranged for practical application of overhead cleaning and vacuum floor sweeping

### Roberts ShortFlo System for Making Long Fiber Yarns

Roberts Company offers complete technical service in adapting its ShortFlo System for the production of long fiber yarns. This includes the complete yarn manufacturing process starting with tow converters, blending machines, pin drafting, roving frames, spinning frames, winders and twisters.

Where mills have existing equipment, full consideration is given to

utilizing it whenever possible. Or, if a new long-fiber program is planned, all machinery can be specified, and the complete yarn organization set up.

The ShortFlo System for making long fiber yarns requires a minimum number of processes. Many doublings are provided to insure exceptionally good blending of fibers, improved evenness and better strength.

## AATCC Announces Slate

The slate of national office candidates in 1960 of the American Association of Textile Chemists and Colorists was announced at the recent council meeting in Montreal, Canada. Nominated were: Weldon G. Helmus, for president; J. Edward Lynn and W. George Parks, for New England Region vice president; C. T. Anderson, for Central Atlantic Region vice president; A. Henry Gaede, for Southern Region vice president; Joseph H. Jones, for Western Region vice president. The only race will be for vice president of the New England Region; candidates for other positions were nominated to run without opposition.

## PTI Jubilee Fund Drive

Development of a textile research center on the Germantown, Pa., campus of Philadelphia Textile Institute, is being spurred by the textile college's Diamond Jubilee Progress Fund drive. Dr. F. H. Barth, general chairman of the drive for \$150,000, reported the funds will be used to improve the school's education as well as research services. To achieve the drive goal, the school recently appealed to parents of its students.

## Enters Polymer Field

A. E. Staley Manufacturing Co., corn and soybean processor, is entering the synthetic polymer field. A polymer pilot plant put in operation at Decatur, Ill., early this year is now in semi-works production of acrylic type emulsions. Staley also plans to acquire the UBS Chemical Corp., Cambridge, Mass., thus adding that company's polymer operations and plants to the Staley program. UBS has a chemical plant and laboratories at Cambridge, a new polymer plant at Le-mont, Ill., a polymer plant and laboratory under

construction at Marlboro, Mass., a technical laboratory near Greenville S. C., and other facilities.

## Textile Industry Outlook

James L. Rankin, president of Ewing-Thomas Corp., is optimistic concerning the outlook for the American textile industry. Discussing likely price trends, Rankin recently told the textile panel of the National Association of Purchasing Agents that "while some items still are lower than a few years ago, generally prices are higher and apparently will advance further, especially in finished goods."

"The law of supply and demand is functioning in its usual way, and there are indications profit margins will continue to expand," the Chester, Pa., textile manufacturer said. "I am reliably informed that a considerable volume of grey goods and print cloth has been purchased for delivery during the first half of 1960 at prices about 10% above those which prevailed in the early part of 1958."

## Cites Import Dangers

The dangers of textile imports from several nations other than Japan cannot be overlooked, according to James A. Chapman, president of the American Cotton Manufacturers Institute. Speaking at the annual convention of the Southern Textile Association, Chapman, said Japan is operating under a negotiated voluntary agreement with the U. S. but increased her quotas on exports of cotton textiles to this country this year.

He emphasized that large quantities of cotton textiles from Hong Kong, India and Pakistan are being offered at prices in this country far below those at which U.S. mills can sell and make a profit. Chapman said the solution must come in the form of reasonable governmental limitations on the amounts of foreign goods permitted to enter U.S. markets.



**A Word to My TEXTILE Friends!**

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**DESIGNING AND PRINTING SERVICE**

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President

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Belle  
first...**

for all  
fibers  
and  
blends

**belle chem**  
ULTRA fast\*

dustless powders or pastes of all type colors  
**custom blended** and **batch packaged**  
for your standard shades.

**... you save time and costs**  
**... you gain absolute uniformity**  
**... you obtain full color value**

**BELLE COLORS**

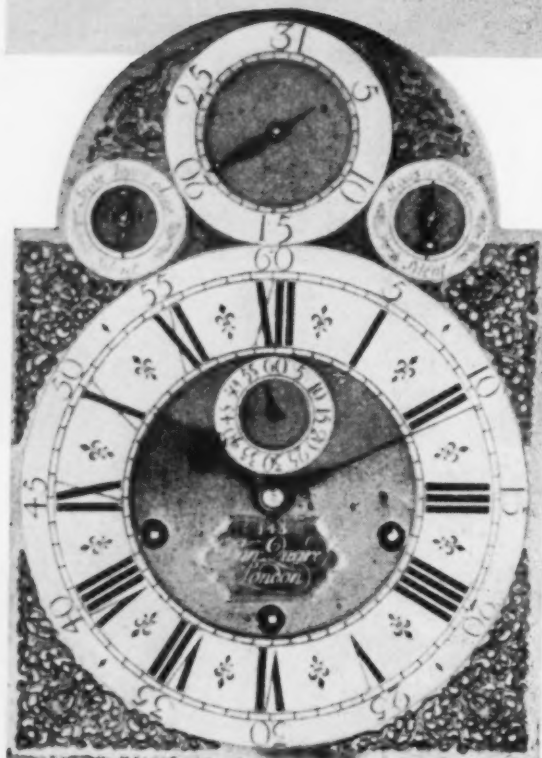


**Belle Chemical Company, Inc.** / Reading, Pennsylvania / Charlotte, North Carolina

\*when aftertreated with Belleloc CN or Belleloc VS.

# Time Is Money

BENJAMIN FRANKLIN



Very rare clock dial designed by "Daniel Quare" of London in 1720.

"Time is my estate", said Goethe. To all successful businessmen, time is a valued asset. They employ Factoring to release valuable time to plan for the Future.



**ISELIN-JEFFERSON FINANCIAL  
COMPANY, INC.**

Jarvis Cromwell, President

111 WEST FORTIETH STREET, NEW YORK 18, N. Y.

## Hunt Let-Off Pact

Southern Loom Development Co. has signed agreements with Draper Corp. and Crompton & Knowles Corp. which permit wider distribution of the Hunt Let-Off. Draper and Crompton & Knowles will sell and service the let-off and offer it on new looms manufactured by them through their worldwide facilities. Southern Loom will continue to manufacture and market the Let-Off.

Originally, the Let-Off, developed by John O. Hunt, was used principally for critical filament fabrics but it is now used in other fields. Today major installations are in operation in plain and fancy cotton mills, in synthetic plants and in woolen and worsted mills.

## Lurex Design Contest

A nationwide design competition among professional designers, including interior decorators and architects, textile and furniture designers, is being held by the Textile Fibers Department of Dow Chemical Co. Awards in the contest, "Creative Living," will be judged for either residential rooms or office interiors in which fabrics containing Lurex metallic yarns are used. These metallic yarns, manufactured by Dow, may be represented in one or more various ways—in draperies, upholstery, floor or wall coverings. Closing date for all entries is September 30, 1959, with top prize winners to be announced in January of next year. Further information on the competition can be obtained by writing the editors.

## More Wood Pulp

Regular log towing service between the timberlands bordering the glacier-fed Nass River in northwestern British Columbia, Canada, and Prince Rupert, B.C., was inaugurated in June. Sea-going tugs now haul approximately one million board feet of flat-rafter logs per trip on the two-day, 72-mile coastal voyage from the mouth of the Nass River to Prince Rupert where the logs are delivered to the sulphite pulp mill of Columbia Cellulose Co., Ltd., an affiliate of Celanese Corp. of America. At the mill the logs are converted into dissolving wood pulp, the basic raw material used for acetate and rayon fibers, acetate plastics and specialty high grade papers.

## Dedicate Engelhard Lab

A new million-dollar research and development laboratory of Engelhard Industries Inc., was dedicated recently at Newark by Governor Robert B. Meyner of New Jersey. The Governor stressed Engelhard's contributions to "areas of industrial opportunity" in nuclear energy, synthetics, pharmaceuticals, petroleum, automation, and precision instrumentation.

Charles W. Engelhard, chairman of the board of Engelhard Industries, said that the company is designed primarily to serve other industries in a wide variety of peacetime and military enterprises. Gordon V. Richdale, president, said that Engelhard's growth is the direct result of the unending search for new applications for precious metals.

Dr. E. F. Rosenblatt, director of research, said projects in the laboratory include study of the properties and refining of platinum metals and their alloys; the effect of platinum metal catalysts on organic compounds; the use of platinum metals in petroleum chemistry; the surface conditioning of metals; platinum metals electroplating; electron microscopy; and spectroscopy.

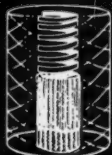
The laboratory houses most of the Research and Development Division, one of 15 divisions of Engelhard. The research unit is divided into two departments, Physics and Chemical. Two sections of the Chemical Department, specializing in instrumental analysis and electrochemistry, remain at the firm's headquarters building, 113 Astor St., Newark, where the entire lab formerly was located.



We dye them all on the

*Franklin*

COMPRESSIBLE PACKAGE



X-ray view of Franklin Package—the "secret" of uniform shades. Don't say "packaged dyed". Say "FRANKLIN DYED".



Naturally, we are best known as a quality service for the dyeing of cotton, wool and worsted yarns. These are the oldest fibres and we have been in business for nearly half a century. However, don't forget that we do equally good work on the new synthetic spun fibres and blends, as listed herewith.

There are many reasons for Franklin Quality and Service: — unequalled experience, 4 conveniently located plants, a yarn department, an extra soft finish for knitters, laboratory control, an eagerness to serve, etc. But the biggest reason is the Franklin Spring. This permits harder packages to be compressed less and softer packages to be compressed more into a solid column of uniform density. Hence penetration of the dye liquor is uniform and level shades result.

No matter what your fibre — natural or synthetic — have it Franklin dyed. Get *recognized* quality — quality it will pay you to talk about.

*Franklin Process*

A DIVISION OF INDIAN HEAD MILLS, INC.

Largest Package Dyers in the World,  
Dyeing All Yarns on the Franklin Spring Exclusively  
PHILADELPHIA • GREENVILLE • CHATTANOOGA  
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New York Office — 111 West 40th Street  
Providence Office — 611 Turks Head Bldg.

\* Trademark for Dupont's acrylic fibre.

\*\* Trademark for Dupont's polyester fibre.

† Trademark for Chemstrand's acrylic fibre.

628-8

**No. 11 in a series**—How your Du Pont salesman is backed by many sales-building activities, including Fiber Research, Technical Service, Fabric Development and Merchandising.

## The man from Du Pont lends a hand in the cutting room

Meet George Bollinger (left) of Du Pont. He's a Technical Service Representative in our Fabrication Group. That's quite a title, and here's what it means . . .

George is one of a group specializing in developing the best techniques and materials for tailoring garments of our fibers. These men know cutting, sewing and garment finishing, just as other Du Pont Technical Service Representatives know knitting, weaving and fabric finishing. George (shown here with Louis Scalise, Vice President and head designer at Witty Bros., and head of Custom-Edition Clothes by Scalise) and his cohorts work with apparel manufacturers to help insure that the consumer gets all the performance advantages made possible by Du Pont fibers. Achieving true wash-and-wear performance has, of course, been a major project.

Last year, over 1,800 apparel manufacturers received Technical Information Bulletins from the Fabrication Group—and over 500 attended the Group's ten educational clinics.

What it all adds up to is this: Du Pont helps the manufacturer to produce garments that will sell and satisfy . . . and this helps our customers sell more fabrics made with Du Pont fibers.

**From raw fibers to retail sales  
... Du Pont helps build profits for you**





## PRODUCT and PROCESS NOTES FROM DU PONT

**"Dacron"\* Type 61 polyester staple** is specifically designed for industrial uses requiring the physical and chemical properties of conventional "Dacron" Type 54 *plus high shrinkage*.

In the presence of hot air or hot water, "Dacron" Type 61 will shrink approximately 45%. This property makes it possible to produce non-woven felts of 100% "Dacron". "Dacron" Type 61 staple fibers are carded to form a batt which is needle-punched to interlock the fibers. This needled batt is then exposed to hot water or hot air to produce a felt.

Blended with wool in woven felts, "Dacron" Type 61 has sufficient shrinkage to permit it to ride and pack with wool during fulling and assists in closing and stabilizing the felt fabric.

Filtration, wicking, sealing, cushioning, spacing and lubrication are among the industrial uses for felts which benefit from the unique combination of properties possessed by "Dacron" Type 61.

**"Civona"\*\*\* rayon**—Your favorite lady's hat this summer may be made of "Civona", the latest addition to Du Pont's collection of rayon fashion yarns. "Civona" yarns are crisp, lofty and readily dyeable in a full range of seasonal colors. Currently available in only one count, 600-20 dull, "Civona" rayon is also being evaluated for use in draperies, casements, dresswear and toy-plush fabrics.

**"Taslan"\*\*\* textured yarn**—Several hundred new fabrics and garments utilizing "Taslan" textured yarns were shown recently to the press at a meeting in the Du Pont office in the Empire State Building. A number of the interesting items displayed were of foreign origin. Special attention was focused on the novelty yarns made possible by multi-end and variable-feed texturing. It was forecast that textured yarns of all types would grow to a 100-million-pound market by 1964, with "Taslan" accounting for about 25% of the total.

\*Du Pont's registered trademark for its polyester fiber

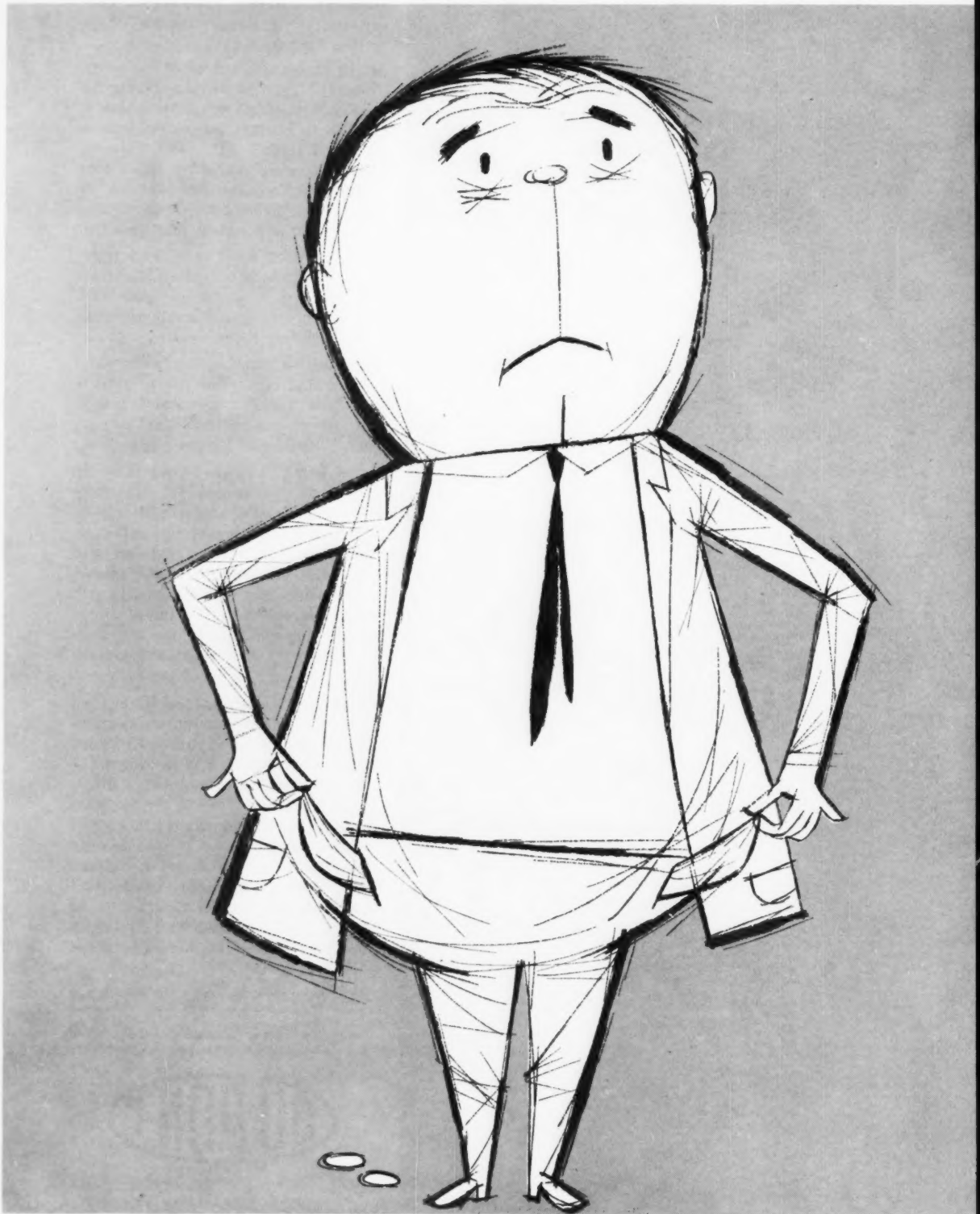
\*\*Du Pont's trademark for its hollow-filament rayon fashion yarn

\*\*\*Du Pont's registered trademark designating textured yarns made in accordance with quality standards set by Du Pont



BETTER THINGS FOR BETTER LIVING  
... THROUGH CHEMISTRY

**are your profits**





# dead when your rayon yarn's dyed ?

I.R.C. CONTINUOUS PROCESS RAYON SAVES  
LOSS FROM UNEVEN DYEING. IT'S PERFECT  
INCH BY INCH...UNIFORM MILE AFTER  
MILE! YET IT COSTS NO MORE!

As long as you use ordinary rayon yarns, you can't help getting streaky yardage. Change to I.R.C. yarns and you'll wind up with *more* first-quality profits than ever before.

It's as simple as that to take a lot of the *red* out of your textile operation!

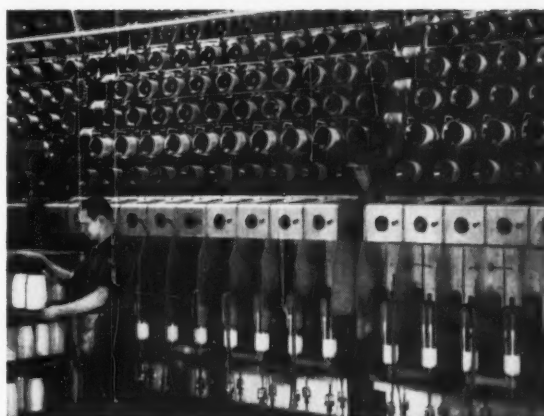
Why is this so? Because even the best of ordinary yarns have dye variations within the package. And there are other irregularities that can't be avoided. They're part and parcel of any production system where the yarn gets handled so many times from one stage to another.

Not so I.R.C. Continuous Process yarn.

I.R.C.'s exclusive process is *continuous* just as the name says. All of the process stages are part of one continuous vertical system which carries the yarn without interruption from the spin-bath to twisted package.

I.R.C. rayon yarn being as perfect as possible, dyes as perfectly as possible.

It costs no more...and it saves you plenty!



## I·R·C

Industrial Rayon Corporation  
Cleveland, Ohio

660 Union Commerce Bldg., Cleveland 1, O.  
500 Fifth Ave., N.Y. 36, N.Y.  
627 Guilford Bldg., Greensboro, N. C.

ON CONES



ON TUBES



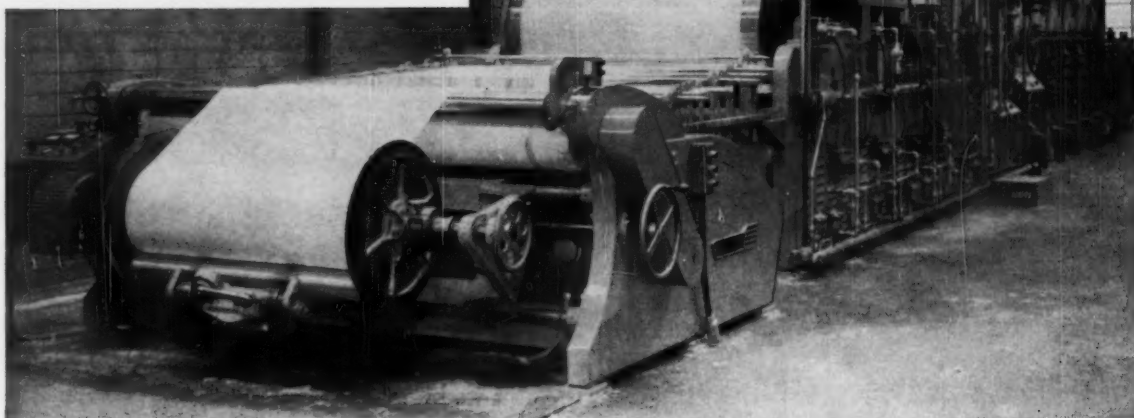
ON BEAMS



Producers of Continuous Process Rayon Textile Filament Yarns. Tyrex\* Cord and Fabric for Tires. Nylon Staple.

\*Certification mark of Tyrex Inc. for viscose tire yarn & cord.

# A Report on the first COCKER GH SLASHER Installation



*A Complete Cocker GH Slasher Installation at Morgan Mills, Springfield Division, Laurinburg, N. C.*

**1540 pounds per hour  
(combed yarn)**

**15 percent pick up**

**40 percent penetration**



This, the first complete Cocker GH Slasher Installation, has fully proven the claims made for it at the Greenville Exhibition.

Operating with 6,400 ends 40s single combed yarns, this GH Slasher has been running at a top speed of 135 yards per minute and a production of 1540 pounds per hour . . . with 4½ % moisture regain, 15% size pick up, and 40% penetration. This has resulted in a weave room efficiency of 96% and an increase in loom assignment.

The Model GH is unquestionably the World's most modern, most efficient, and most economical slasher. Write for full information today.

## COCKER MACHINE & FOUNDRY COMPANY

**IN CANADA:**  
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**PLANT & OFFICES**  
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**WORLD'S LARGEST DESIGNERS AND BUILDERS OF  
COMPLETE WARP PREPARATORY EQUIPMENT**



**the textured yarn story  
has never been wrapped  
up like this before. Send  
for your copy...it's free!**

Textured nylon continues to open fresh and exciting markets for the textile industry. As a service to the industry, The Technical Sales Service Department of The Chemstrand Corporation has prepared this 33-page booklet on the entire story of textured nylon yarns. This is the most comprehensive, current treatment of the subject available. Industry reaction to this highly informative booklet has been enthusiastic. Technical people, especially, have welcomed it because of the important gap it fills in the textured nylon picture. This booklet is available free. Simply write to Nylon Advertising Department, The Chemstrand Corporation, 350 Fifth Avenue, New York 1, N. Y.

**Chemstrand® nylon**



**THE CHEMSTRAND CORPORATION**

GENERAL SALES OFFICES: 350 FIFTH AVE., NEW YORK 1, N. Y. • DISTRICT SALES OFFICES: 350 Fifth Avenue, New York 1; 3¼ Overwood Road, Akron, Ohio; 197 First Avenue, Needham Heights, Mass.; 129 West Trade Street, Charlotte, N. C.; California Office: 707 South Hill Street, Los Angeles 14 • CANADIAN AGENCY: Fawcett & Co., 34 High Park Boulevard, Toronto, Canada • PLANTS: CHEMSTRAND® NYLON—Pensacola, Fla.; ACRILAN® ACRYLIC FIBER—Decatur, Ala.

# ARNEL'S "STAMPS" OF CONSUMER APPROVAL

Answers to the questions, "Why?", "What made it work?", or even "How come?" are essential ingredients in the telling of any success story.

Arnel is a success story. This triacetate fiber is known in the industry for its processing and styling flexibility—its economic advantages.

But there's still another side to this success story. The consumer's. Their "stamps" of approval give real meaning to the Arnel story. For instance, consider WRINKLE RESISTANCE.

1. While Arnel fabrics are initially attractive to the consumer for beauty and styling, it's the ease-of-care characteristics such as wrinkle resistance that complete the sale.
2. Properly constructed fabrics made of Arnel are extremely resistant to wrinkling and musing, even under conditions of highest humidity.
3. This high resistance is due to the fiber's intrinsic properties, including low moisture retention (absorbing only 3.2% moisture under normal conditions) and excellent resilience.
4. This resistance is *not* at the expense of other characteristics. Fabrics of Arnel have a desirable hand plus eye-appealing beauty and drapability.
5. Fabrics carrying the official Arnel symbol have been pre-tested for performance claimed—including wrinkle resistance. (Tests are conducted free of charge by the Celanese Corporation of America.)

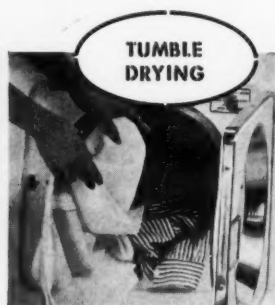
So take advantage of the great consumer acceptance of Arnel. Let Celanese work with you to develop new Arnel fabrics. Booklets 12A, 13A and 14A, containing the important technical procedure and facts about Arnel, are available by writing Celanese Corporation of America, Box 1414, Charlotte, N. C.

Celanese® Arnel®

**District Sales Offices:** 180 Madison Ave., New York 16, N. Y.; Room 10-141 Merchandise Mart, Chicago 54, Ill.; Western Merchandise Mart, Room 478, San Francisco, Calif.; P. O. Box 1414, Charlotte 1, N. C.; 200 Boylston St., Chestnut Hill 67, Mass.; 3179 Maple Drive N. E., Atlanta 5, Ga.

**Export Sales:** Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Ave., New York 16, N. Y.

**In Canada:** Chemcell Fibres Limited, 1600 Dorchester Street West, Montreal, Quebec



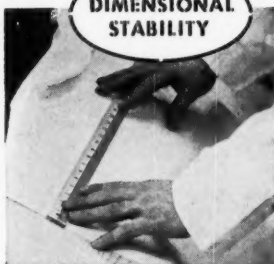
## Arnel . . . a





# WRINKLE RESISTANCE

**DIMENSIONAL  
STABILITY**



**IRONING—  
NO PROBLEM**



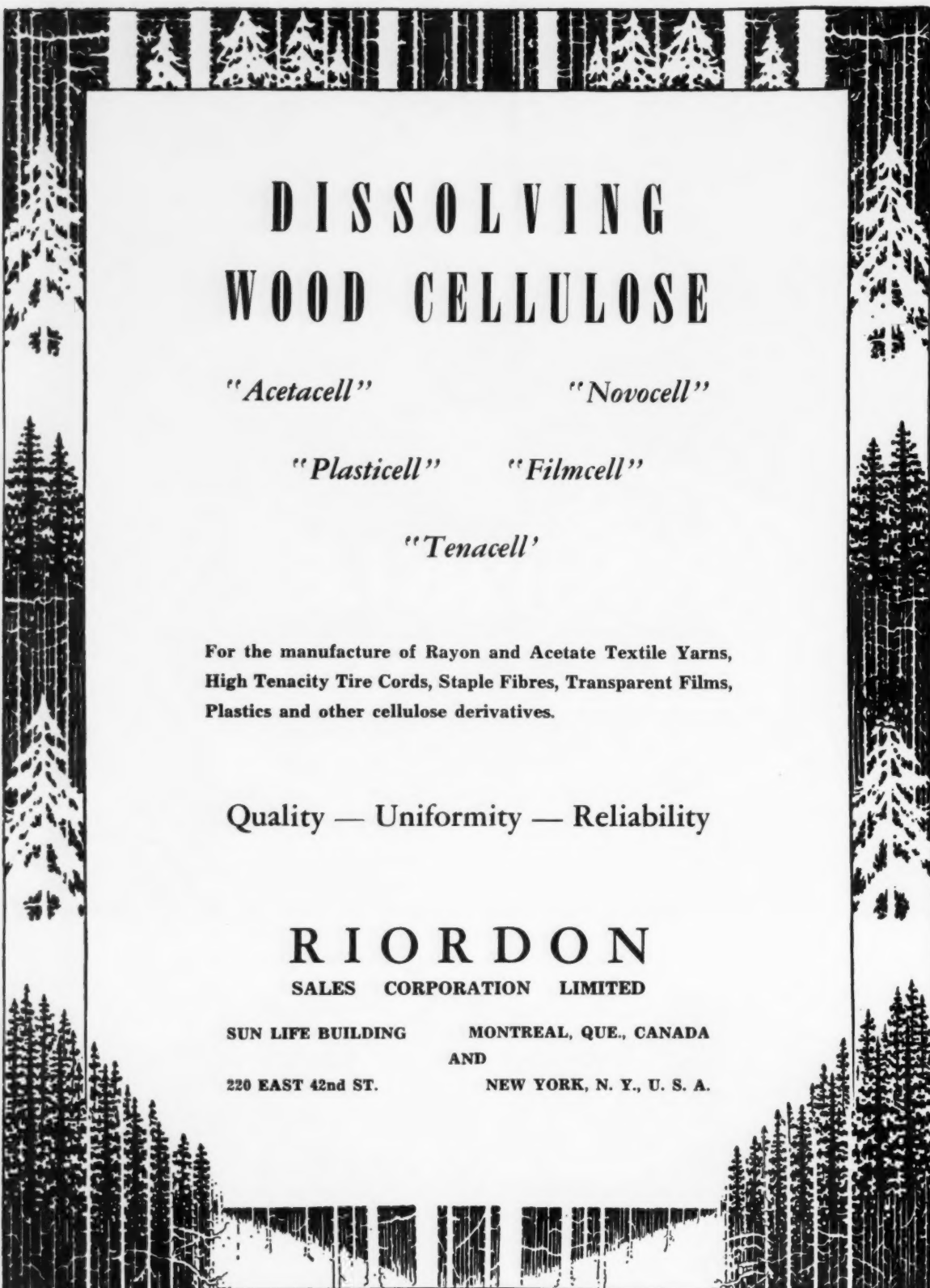
**FABRIC  
TESTING**



**ARNEL**

\*This is the official Arnel symbol—evidence that this fabric of this new triacetate fiber has been pre-tested for performance claimed.

## *Celanese* contemporary fiber



# DISSOLVING WOOD CELLULOSE

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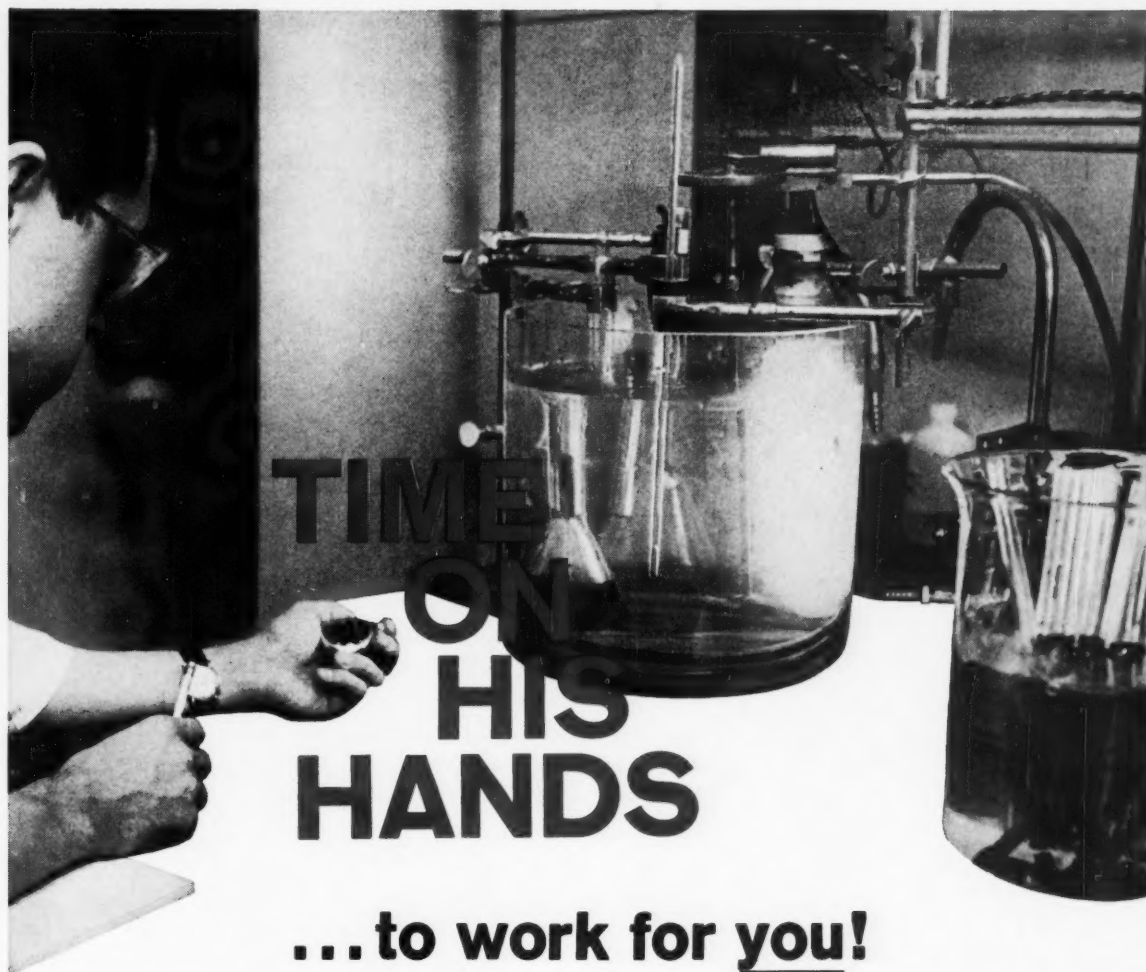
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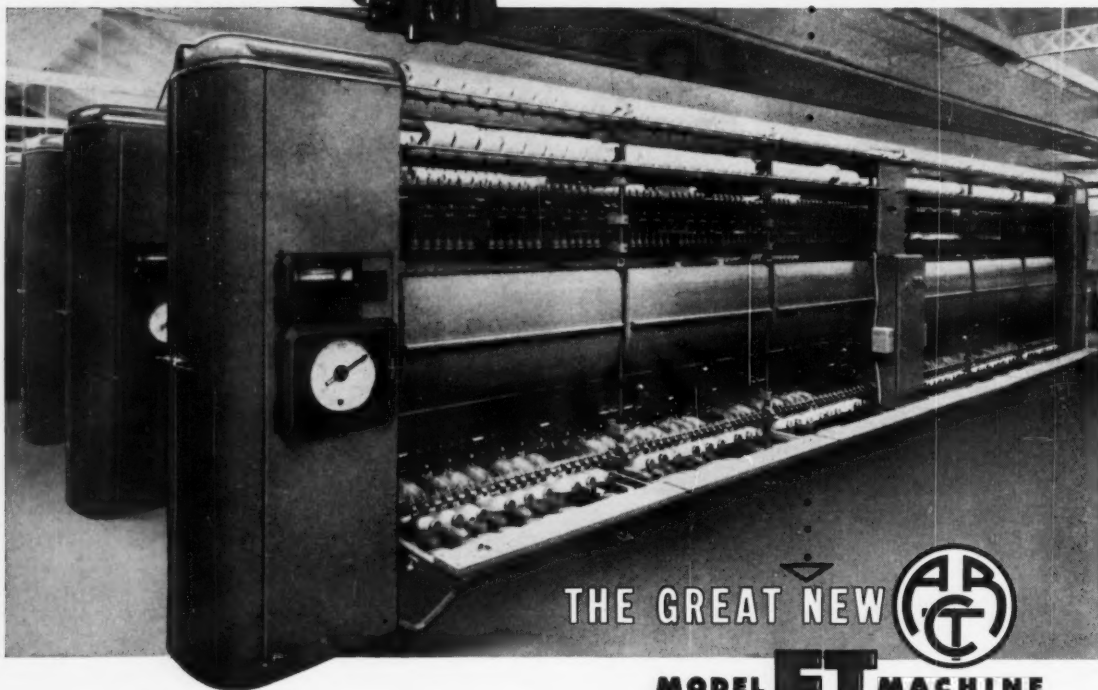
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AUGUST, 1959

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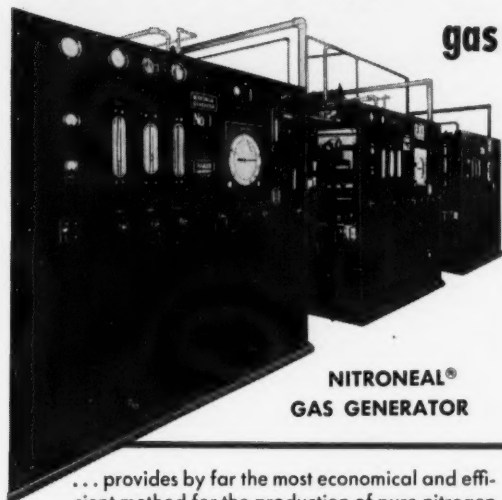
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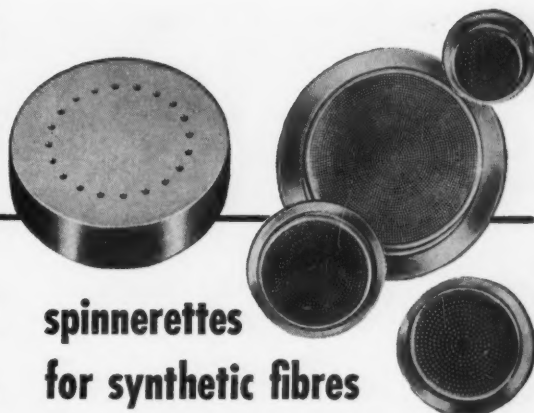
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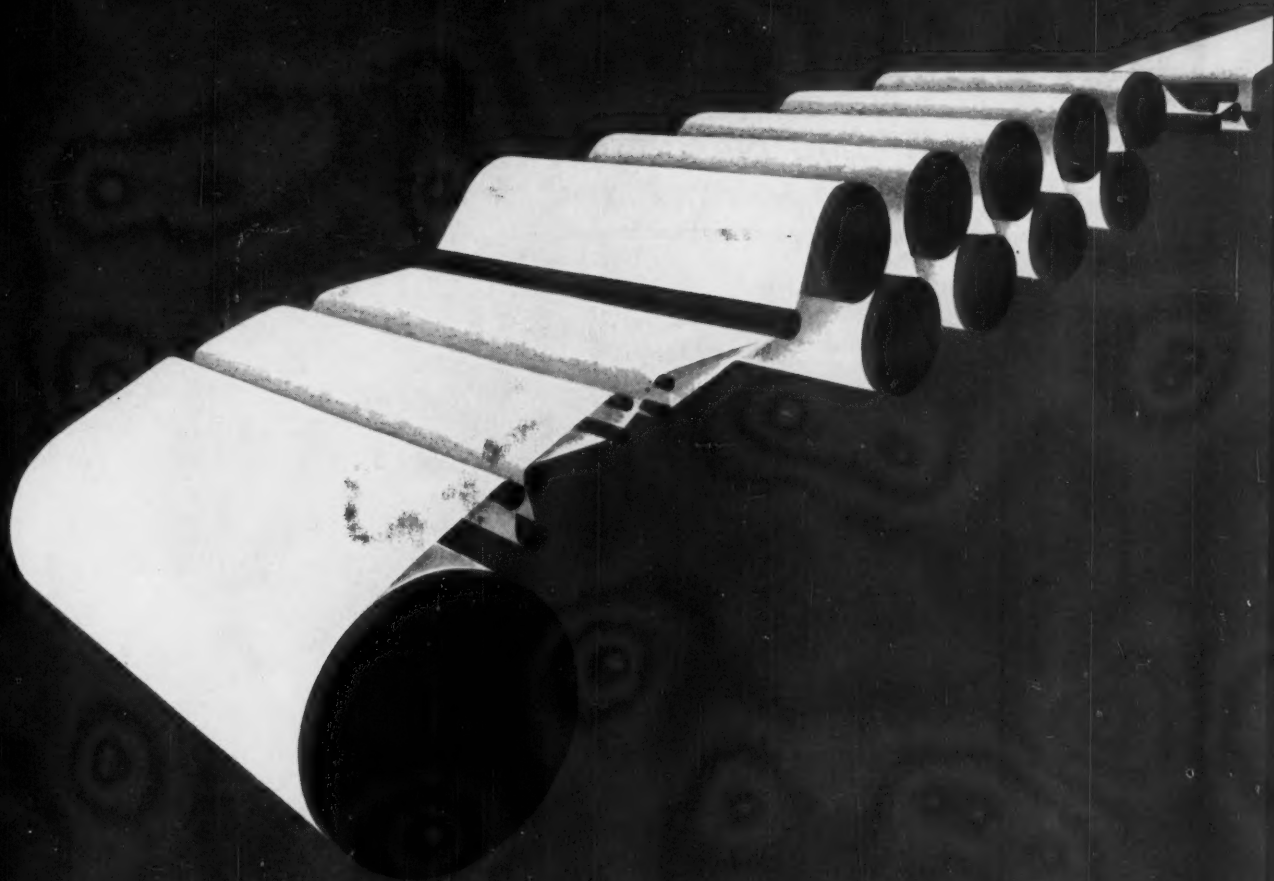
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Of course, you want tightly and evenly-packed loom beams. You want size evenly applied, with careful control of pick-up, and fast drying at regulated temperatures. You want controlled moisture content in the yarn after drying. You want equipment that's easy to maintain. The Kidde-Johnson Slasher meets your requirements perfectly. Here's why:

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7. High pressure, Teflon-coated cylinders

### 8. Stainless steel components

**Kidde makes the Slasher  
to suit your production requirements**

The Kidde-Johnson Slasher will slash yarns of any fiber — filaments or spuns — from the finest count for delicate fabrics to the heaviest denier tire cord.

It is constructed to fit your requirements — for cotton system slashing, silk system slashing, or both.

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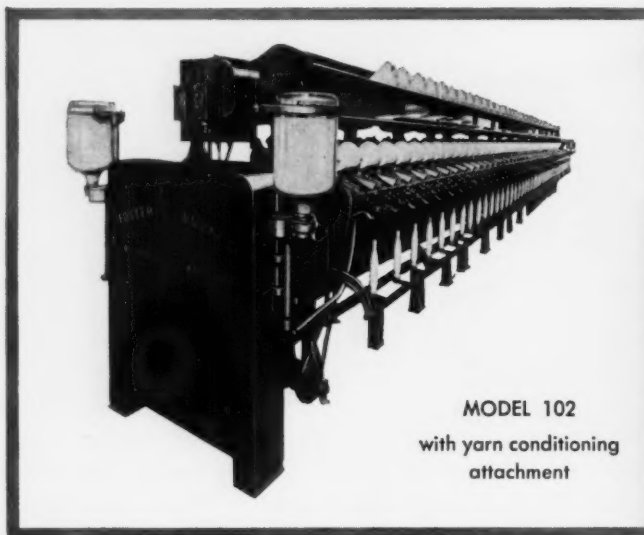
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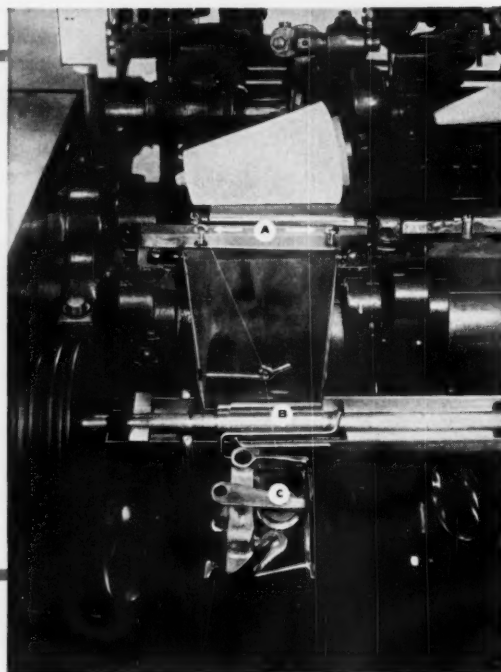
# FOSTER MODEL 102

... For Backwinding Bulk, Stretch and Texturized Yarns



MODEL 102  
with yarn conditioning  
attachment

Mushroom buttons (A), moistening attachment (B) and tension attachment (C) on Model 102.



## An Outstanding Example of This Machine's **FLEXIBILITY**

For many years the Foster Model 102 has been widely accepted for the winding of all types and counts of spun yarns, because of its flexibility, or adaptability, including adjustable angle of wind and adjustable taper. Once again this reputation is confirmed by the machine's recent economical adaptation to the winding of bulk, stretch and texturized yarns.



Cone of Texturized® yarn wound on Model 102.

In addition to flexibility the Model 102 offers the following: —

**QUALITY CONES.** The increased taper reduces yarn drag and equalizes tension at all cone diameters. The convex base prevents "nipitis". Highly efficient slub catchers automatically inspect yarn. Ribbon breaker prevents ribbon wind. Idler shell on winding drum prevents chafing of yarn.

**ECONOMY.** Doubles production and reduces operating costs  $\frac{1}{3}$ , as compared with obsolete machines, due to high speed, self threading tension device, easy donning and doffing and empty bobbin conveyor discharging into standard size truck. Repair costs as low as \$10.00 per year per 100 spindles. Simple adjustments which any competent fixer can make.

Bulletin A-95-A on request

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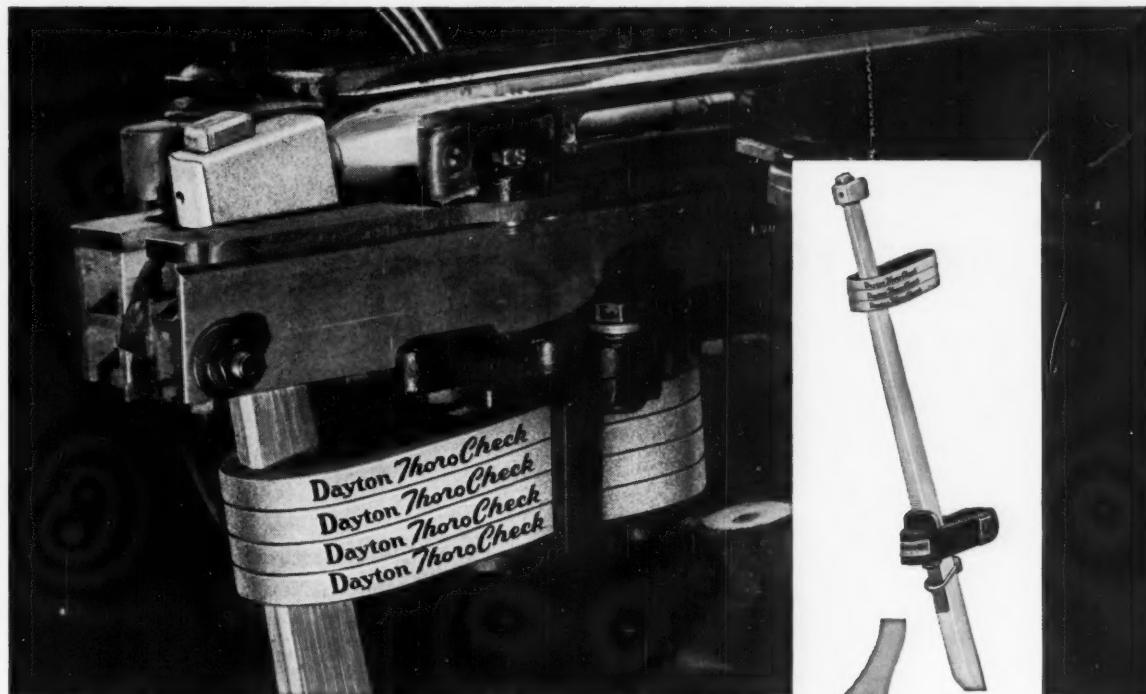
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# To Eliminate Downtime

Guard These Three Points with the Shock and Wear Resisting Dayton Combination



## GET RIGHT TO THE SOURCE and you'll

eliminate unnecessary downtime. Dayton has concentrated on perfecting a balanced combination of loop picker, check straps and lug strap . . . to protect all three points of shock and wear. And, it takes all three to absorb the shock of high speed shuttles, smoothly check the picker stick, and accurately deliver the shuttle return.

## SHOCK ABSORBING

Dayton Thorobred Deluxe-Lug Straps are molded together around a built-in plug that soaks up the hammering blows generated in the first instant of picker stick thrust. One-piece, link-free construction is the answer for longer service.

## WEAR RESISTANT

Dayton Thorobred Loop Pickers last. Here is why! Tilt of the picker face is perfect for shuttle contact . . . tapered hole and bottom insure accurate seating and protect against tearing the loop ply. Smooth, round corners prevent jerked-in fillings.

## GRADUATED CHECKING ACTION of Day-

ton Endless ThoroCheck Straps with a stronger multi-ply construction . . . adds 6 to 8 months more of trouble-free service. With multiple straps to do the checking, there's never any drag nor interference with the shuttle throw.

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# Dayton Rubber

Dayco and Thorobred Textile Products For Better Spinning and Weaving

OVERSEAS PLANT: THE DAYTON RUBBER CO., LTD., DUNDEE, SCOTLAND

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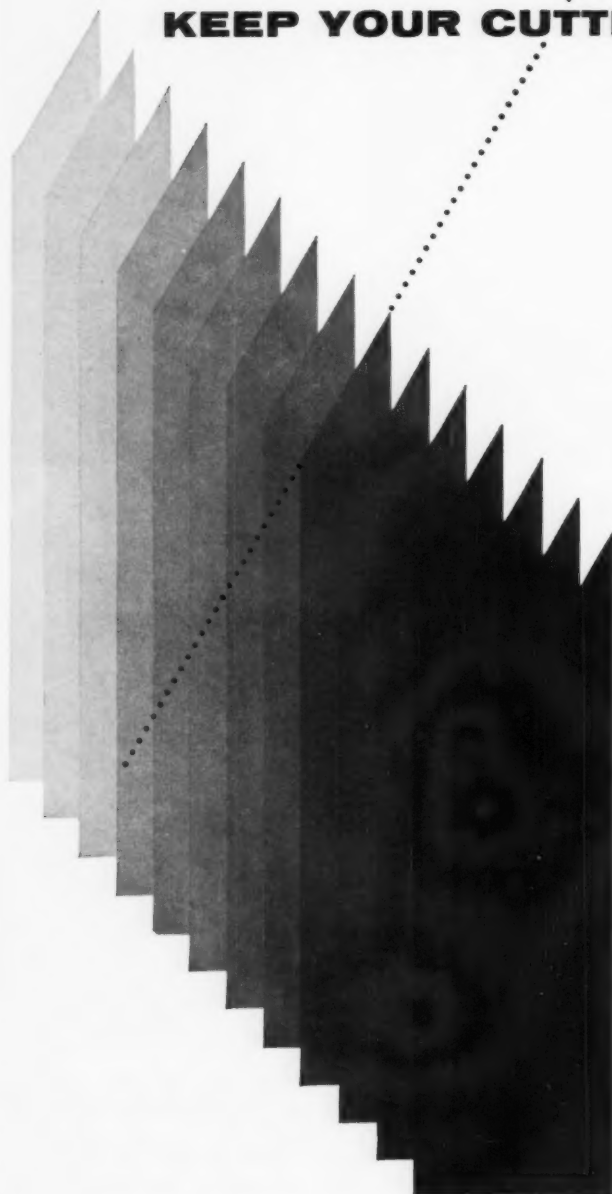
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THE NYLON FIBER BY ALLIED CHEMICAL

# TEXTURED YARN SEMINAR



#11 of a series ...

## KEEP YOUR CUTTING EDGES KEEN



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**FACT:** Textured Filament Yarns and Spun Yarns are not the same.

**EXAMPLE:** In tufting textured filament yarns, knife edges must be kept sharp to avoid cutting streaks.

**WHAT TO DO:** Sharpen knives frequently. Use a clamp on your emery wheel to provide a uniform knife angle and keener cutting surfaces. This is one of the simple steps that can help you get best results with Textured Caprolan\*. Our technical service, end-use development, and fiber application laboratory staffs will be glad to assist you in adapting Textured Caprolan to your product lines. Call us any time.

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\*Trademark—Allied Chemical's polyamide fiber



# MODERN TEXTILES

## Magazine

### Publisher's Viewpoint

#### The labeling law and the future

During the past two months large sections of the textile industry and its related field of garment manufacturing have come to the belated but nevertheless painful conclusion that they have been hit hard over the head.

The sharp pain they are now feeling was inflicted almost a year ago when Congress passed and the President signed the Textile Fiber Products Identification Act. With a strange unconcern the industry ignored the blow at the time it was delivered. But on June 2, the Federal Trade Commission published its rules for enforcement of the act. The textile industry, reading the rules, and hearing from its lawyers what they meant, suddenly felt the pain.

At a series of open meetings in New York lawyers and other experts who had studied the law pointed out the burdens it would put on virtually all segments of the industry. Hearing what the law requires brought screams of anguish from millmen, converters and garment manufacturers. As symptomatic of the expense that compliance with the new law will bring, one fabric manufacturer estimates that it will have to add at least seven persons to its payroll just to begin to keep the complicated records required under the law.

As an example of the complex problems created by the law one trade association executive cited a ski jacket with a pile lining in the hood whose label will require the following statement: "Outer fabric—100% acrylic; interlining filler, 85% nylon, 15% acetate; lining, 60% rayon, 40% acetate; pile fabric, 100% acrylic face, 100% cotton back; back constitutes 38% of fabric, and pile 62%."

The realization that the new law imposes on garment makers labeling requirements of this nature; that it imposes on mills a burdensome duty of keeping accurate records of fiber percentages in blends and certifying such records to purchasers as a guarantee; that, indeed, in a thousand other ways, the new law requires expensive record keeping all along the line has led to the belated wail now echoing through the industry, "How did this happen to us? Why was not effective action taken to prevent passage of this useless and onerous law?"

Instead of futile complaining on one hand and equally futile statements of "See—I told you so," on the other, the sensible thing is to look toward the future. The law exists. It becomes effective March 3, 1960. It must be obeyed.

But the possibility also exists that relief can be obtained from the more needlessly burdensome provisions of the act, or those provisions of the law which prove themselves in time to be unenforceable. A law can be amended. The rules enforcing it can be changed.

The course for the textile industry is to try wholeheartedly to live up to the law. If it turns out that certain provisions work extreme hardship on the industry, steps should be taken to correct such inequities by amendment of the law or the rules.

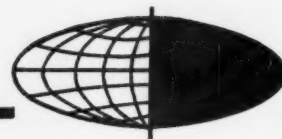
To accomplish these ends what is needed is the determination throughout our industry to work together. Let us take a lesson from the mistakes of the past and pool the resources of our most informed minds in the future to see that the law is amended so that it is enforceable in a reasonable manner without placing on our industry unconscionable burdens of cost and confusion.

To this end it is the suggestion of MODERN TEXTILES MAGAZINE that a strong industry-wide council be formed, initially composed of the heads of the industry's trade associations, to work out policy and procedure with regard to the enforcement of the fiber identification law. It is our suggestion that, to begin with, such a council collect experiences under the law and compare notes as to where the law should be reasonably amended.

When this is done, the council can then proceed to the next step of bringing about changes in the law wherever it would seem such changes are dictated by common sense and the requirement that enforcement be not destructive of the best interests of the textile and allied industries.

*A. H. McCallough*

# TEXTILE NEWS



## World Wide

**JAPAN'S MANMADE TEXTILE INDUSTRY** is moving rapidly forward. Output of nylon yarn seems headed for an all-time record. During the first quarter of the year, Japan produced 18,560,000 pounds of nylon yarn, 80% more than during the same 1958 period. Cutbacks in rayon staple and spun rayon yarn production are being eased during the present quarter.

**NEW JAPANESE-US TRADE** agreements are being made. Du Pont's license agreement with Teikoku Rayon Co. has been approved by the Japanese World Trade and Industry Ministry. The company will start making Taslan textured yarn in December, about 30,000 pounds which will rise to some 100,000 in 1961 . . . And American Cyanamid Co. will get all the necessary cost data from Tokyo Koatsu for producing Urylon, a polyurea fiber developed two years ago.

**NYLON OUTLOOK IN BRITAIN** appears bright. British Nylon Spinners found the prospects good for both nylon staple and yarn, with export demand already surpassing expectation. Domestic demand for industrial purposes is also strong.

**BRITISH TERYLENE YARN** prices have moved up for the first time since October, 1955. Imperial Chemical Industries, has raised prices from five to nine pence per pound (6¢ to 10¢), with the 75 denier boosted to 145 pence (\$1.69).

**MENSWEAR TRADE IN UK** forms "British Menswear Guild." to pep up sales. Six of the country's largest manufacturers and exporters are setting up an office at Aquascutum's Regent Street quarters. They are working out a fashion theme, perhaps for this coming winter.

**BRITAIN SELLS RUSSIA** more textile machinery in several new deals. Two of the latest are: (1) with Platt Bros., of Oldham, Lancashire, totaling 2.8 million sterling, including a Chatillon of Italy subcontract, for a high tenacity tire cord plant, and (2) with Ernest Scragg & Sons, of Macclesfield, for some \$1,680,000 worth of rayon acetate factory equipment. Scragg got a \$2.8 million order from Russia a year earlier.

**RUSSIAN TEXTILE THREAT** noted by British millman. J. S. T. Hawke, chairman of the Cotton &

Rayon Merchants' Association, told the group's annual meeting, at Manchester, that Communist bloc textile fiber output will place the West on the spot competitively. He cited the Asian cotton goods threat. But he hoped one day to see UK clothing exported to Southern Russia.

**ARGENTINA MAY GET** a new synthetic fabric plant built by Italy's Snia Viscosa. Snia's present subsidiary in Argentina, Sniafa, is now making man-made staple and yarns. The pending project would include Mitextil-Heyman & Co. of Buenos Aires.

**NEW ARGENTINE MANMADE FIBER** factory has entered production. Electroclor polyvinylchloride is now being produced in Capitan Bermudez Province in a plant built with the assistance of Imperial Chemical Industries, Ltd. Output is for domestic use.

**UK FIRM GETS POLISH ORDER** for \$3.6 million worth of cotton spinning equipment. Part of the items will go to build a new mill, the rest for existing mills in the Lodz area. The firm: Platt Bros.

**DUTCH TO OPEN NONWOVEN** fabric factory in Veenedaal. Hollantor NV, affiliated with Tootal Broadhurst Lee Co., Manchester, England, will make the chemically-united material for the home and export markets. It is used as a base for plastics, for linings, as a felt replacement and bobbin heads, among other purposes.

**SWEDISH SHUTTLELESS LOOM** (now licensed for production in U. S.—see MTM July '59) has been redesigned for mass production, according to word from Manchester, England. Spain, Japan, and some latin American countries are also said to be in line for the Maxbo loom.

**TEXTILE WORKERS in SWEDEN** are pessimistic about the future in their country. At their annual meeting, the union noted that employment dropped 8.6% last year and production was down again during the first few months of 1959. But they hoped that the last few years' shakedown in the industry was about over. At the end of last year, 765 mills and clothing factories employed 58,321 persons.



**ABREAST OF EVENTS**—Looking through a new book on labor, Harold Conant, president of the country's largest producer of elastic fabrics, sits at his rolltop desk—the only old-fashioned thing about him.

## Modern-minded Harold Conant

*We must expect change says the president of United Elastic Corp., and prepare ahead of time to cope with it*

**By Jerome Campbell**

EDITOR, MODERN TEXTILES MAGAZINE

**O**NE DAY NOT LONG AGO when Harold Conant, president of United Elastic Corp., was in the company's Littleton, Mass., plant he stopped to chat with Hugh Foley who at 83 is United's oldest employee. In spite of his years Foley puts in a full working day as a sharp-eyed inspector of elastic fabrics.

"Do you remember," Foley asked Conant, "way back when you were about seven years old, how you used to come into the plant every afternoon after school? I used to lift you inside the big shipping crates and then hand down the rolls of elastic suspender webbing and you stacked them neatly, working your way out of the crate. You were then," the old man added with a big smile, "just as hard a worker as you are now."

Hugh Foley's anecdote is thus witness to the fact that Harold Conant now 71, started indeed at an early age in the elastic fabric business, and literally at the bottom. Today, tall, lean and looking far younger than his years, Harold Conant is an embodiment of all the traditional New England virtues of plain talking, plain living and at total commitment to hard work and the willing assumption of great responsibilities. Unlike so many New Englanders in textiles, however, he is not a man who views change with suspicion.

"In the elastic fabric business," he says, "as in most businesses, there is always change. We must look for change; we must prepare ahead of time to cope with change if we wish to survive. In our business we have found that most of the changes have been brought



**S. Clark Lilley**

about by the demand for better and still better elastic fabrics. We have tried, not only to keep up with this pressure from our customers and behind them from the consuming public for improved products, but to anticipate their demands for better elastic goods and bring them out ahead of time."

Conant is insistent that a sensitive responsiveness to new ideas is a necessity for his company, the largest American manufacturer of elastic fabrics which last year had sales in excess of \$25 million. He never forgets that new ideas mean new markets for elastic fabrics; and that such new markets are necessary for his company's profitable survival.

#### **An Elastic Mind**

His thoughts, say his associates, are constantly occupied with speculations on how to find new ways to use elastic fabrics profitably. It is his untiring preachment to his salesmen and fellow executives in United management to keep their eyes, their ears and above all, their minds open for ideas as to where elastic materials can find new uses.

Sparked by Conant's convictions along these lines, United maintains a well-staffed and permanent research effort aiming to improve elastic fabrics and to develop new and useful applications for them.

A recent and typical example of United's eagerness to improve its products to meet the needs of new end uses occurred when stretch nylon tights for women and girls became so fantastically popular last year. These leotards, as they are erroneously called, require a smoothly fitting, snug elastic waistband. It was soon discovered that, for a variety of reasons, the elastic tapes used on other kinds of snug fitting garments simply wouldn't do. The leotards needed an elastic band that would contain nothing but nylon in addition to the necessary rubber yarn which provides the elasticity.

United's research department, starting with the company's already rich residue of skill in the use of nylon to cover rubber core yarns—a tricky business which had not been mastered without much trial and tribulation—came up with a special elastic band that performed exactly as the leotard manufacturers

wanted. The net result was another profitable market for United's elastic tapes.

The mill in which Harold Conant as a nimble assistant to shipping clerk Hugh Foley performed his first useful tasks had been set up by his father and his father's cousin, Daniel Houghton. In time, young Conant, growing older, took on more difficult jobs. During his school years from the age of 14 on, he worked out his summer vacations in the plant, finding that everything about the manufacture of elastic webs interested him strongly. In time he did a stint at virtually every job in the mill—including firing the boilers, working as bobbin boy, weaver and machine fixer.

"When I was a youngster," he recalls now, "they couldn't keep me out of the mill. Whatever event went on inside its four walls attracted me like a magnet."

So thorough a grounding in all aspects of elastic manufacturing augmented by three years at Lowell Textile School is undoubtedly one of the reasons why Conant has been so successful a leader of his company. As one of his associates puts it, "Harold knows every aspect of elastic fabric manufacturing. He knows machinery—knows what it can do."

#### **Broader Product Line**

By the time he was 29, Harold Conant was manager of the Conant Houghton plant in Littleton which had moved away from suspenders into a wider variety of elastic fabrics for the women's corset trade. In 1927, by a merger of a number of smaller elastic manufacturers, including Conant Houghton, United Elastic Corp. was created with Conant serving as assistant treasurer.

In the years since then United has grown steadily. Its policy of searching out new end uses for elastic fabrics backed by the management policies of Conant and his predecessor as chief executive officer, the late revered William L. Pitcher, have proven themselves sound.

For the formulation of these policies, Conant gives a large share of the credit to Pitcher whom Conant characterizes as "a remarkable man." Under Pitcher's guidance, United Elastic became a customer-oriented business. Pitcher used to say, Conant recalls, "we are working for our customers."

*(Continued on Page 79)*



**Percy M. McIntosh**



Here are all the facts about

# VYCRON

Beaunit's new

## POLYESTER

**M**ORE AND MORE mills are stepping up their development work with Vycron, the new polyester fiber of Beaunit Mills Inc., Fibers Division. Approaching the commercial stage of development and marketing are fabrics of Vycron blended with cotton, as well as with rayon and also wool, mostly on a 50-50 basis.

Among mills taking the lead in the introduction of Vycron fabrics are Wamsutta, Spincro Fabrics, Milliken, Wellington Sears, McCampbell, Burlington, Stevens, Iselin Jefferson, Klopman, Greenwood and Berkshire Hathaway. Fabrics with Vycron that are expected to reach the market soon are Vycron-cotton blends for light weight slacks and other sports garments; Vycron-wool tropical suitings; yarn dyed Vycron-cotton gingham and Vycron-rayon cloths for dresses and similar summer garments.

Direct-spun yarns of Vycron currently offered by Beaunit Mills in 10's through 24's counts are being used in raincoats, suitings and dress fabrics as well as for tents and other industrial uses. The direct-spun yarns have a high shrinkage factor ranging from 7 to 10% and are thus especially advantageous where tightly woven fabrics are considered desirable as in raincoats and tents.

Among the advantages cited for Vycron by Beaunit Mills spokesmen are greater strength than other polyester fibers now on the market, thus permitting lighter, more sheer fabrics which can be tailored into serviceable garments. Vycron is also said to possess greater affinity for dyestuffs than other polyesters thus permitting a wider range of colors in fabrics. According to Beaunit Mills, Vycron fabrics also exhibit greater resistance to pilling, a softer, more pliant hand, resulting in greater suppleness and drapability for fabrics containing polyester fibers.

In marketing Vycron fabrics, Beaunit Mills has worked out a quality control program which will fix minimum standards for blend levels and constructions. Converters marketing Vycron cloths will have to submit their fabrics to U. S. Testing Co. for a determination that they measure up to Beaunit Mills' requirements in order to obtain the right to use the Vycron label on their products. While minimum blends will vary with fabric constructions, Beaunit Mills will require a minimum Vycron content of 50% in all fabrics of standard constructions marketed with the Vycron label.

Another innovation with the introduction of Vycron

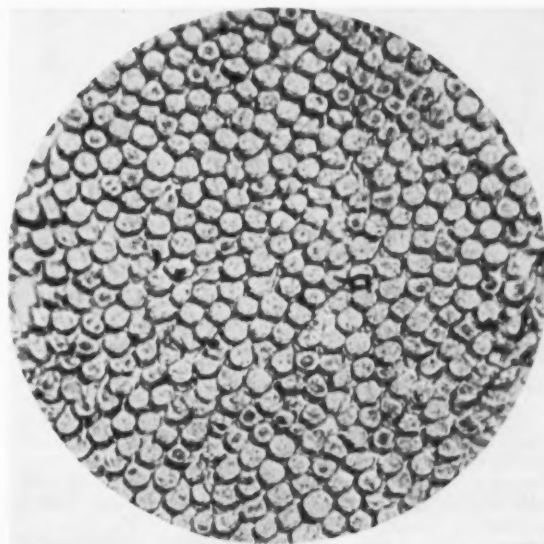
are new "special process yarns." These are Vycron filament yarns combined with other yarns such as rayon and Bemberg to give unusual surface effects such as a slubbed effect and a "tweedy" effect. The process by which these yarns are produced was developed by American Bemberg, also a subsidiary of Beaunit Mills, and patent applications are pending.

Vycron is manufactured at Beaunit Mills' plant at Elizabethton, Tenn., where special large scale facilities for expanded production are now being completed. By October, the new equipment will be capable of producing Vycron at the rate of 10 to 12 million pounds a year. Vycron staple fiber and 200,000 denier tow are priced at \$1.36 a pound. In addition to staple fiber, tow and direct spun yarns, Vycron is available in filament yarn form.

### THE FACTS ABOUT VYCRON

Vycron is a polyester fiber differing from other polyesters in its total chemical constitution and its

*(Continued on Page 68)*



**CLOSE-UP**—Here is a photomicrograph of a cross section of a group of Vycron fibers.

In Europe —

## more metallics in knitwear

By the Editors

**A**TREND to use metallic yarns increasingly in a wide variety of knitwear has been noted in European fashion centers by Arthur C. Brucks, president of Metlon Corp. Earlier this year, Brucks made a six weeks tour of fashion centers in England, France and Italy. All types of machinery is being used, he reports, to take full advantage of the styling potentials of metallic yarns in knit goods, including circular, flat, tricot and raschel.

To permit American knit goods manufacturers to keep pace with the trend to use metallics in knit constructions, Metlon has recently introduced an extremely fine metallic yarn adaptable for all types of knitting equipment, Brucks revealed. The new yarns are soft, pliable and ductile, and withstand without deterioration wet processing and piece dyeing.

In Europe, Brucks found, most of the high style designers are using more and more metallics for the base garments as well as for decoration. The handling has been diversified, he noted, and many full-fashioned sweater manufacturers are using considerable hand embellishments such as embroideries combined with beads and sequins. Other manufacturers are using metallic yarns knitted with wool yarns for the bodies of sweaters, Brucks observed.

Circular knits in fine counts of yarn are being used extensively for cocktail and evening dresses in leading European cities. These finer counts, together with the shorter skirts being worn, give a sleeky, form-fitting effect in women's costumes. In dress fabrics, Brucks



Arthur C. Brucks

said, jacquard patterns and surface effects using metallics are exceptionally popular this year, and this trend in woven goods is being followed by the knit goods industry.

In the use of tricot fabrics, Brucks saw in Europe many attractive new constructions using both natural and synthetic yarns for lingerie, gowns, slips and blouses. He noted that metallic yarns are being increasingly used by European designers of tricot fabrics who understand the value of metallics in achieving fresh and interesting texture and style effects.

Another use for tricots, often lavishly embellished with metallic yarns, is in laminations with clear plastic which give smart effects in home furnishing items such as upholstery and table tops. Similar fabric-plastic combinations are being used by pace-setting Europeans in bags, belts and other accessories.

Laces are also popular, Brucks said, particularly in borders and edges to enhance and give subtle effects. In raschel knitting, Brucks observed, many interesting fabrics have been developed for the shoe and bag trade as well as for scarves and gloves.

Another trend in Europe is the use of Mylar metallic yarns in machine embroidery by manufacturers who use schiffli and other types of hand and power embroidery machines for this purpose. Brucks saw a number of attractive samples of such embroidery while in Europe making use of dainty flower effects and conventional embroidery motifs.

### Strawlike Rayon Yarn

Strawn, a new flat, strawlike monofilament rayon yarn designed for use in upholstery and drapery fabrics has been introduced by Industrial Rayon Corp. The new yarn has an unusual cross section and luster, and can be used by itself or combined with either natural or manmade fibers.

Strawn, a product of Industrial Rayon's continuous process, is easily and uniformly dyed and can be cross-dyed with other yarns. The new yarn is sched-

uled for use in automobile upholstery, having demonstrated exceptional durability. Strawn fabrics were unveiled at the recent Home Furnishings Show at High Point, N. C. They also may be seen at the company's New York sales offices.

The yarn is being commercially produced in 450 and 1250 denier in both bright and dull lusters. It is available in skeins or packaged on cones or spools. A full scale merchandising program will launch the new yarn. For samples and further information write the editors.



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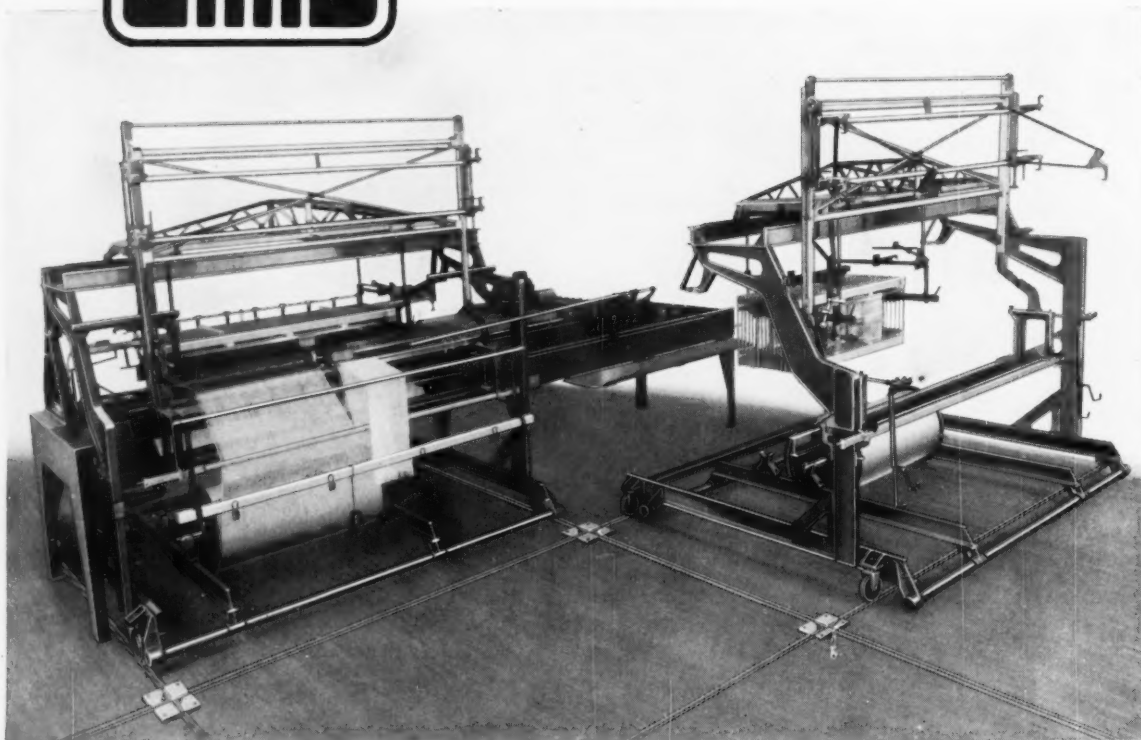
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# All about

## TEXTURED NYLON YARNS

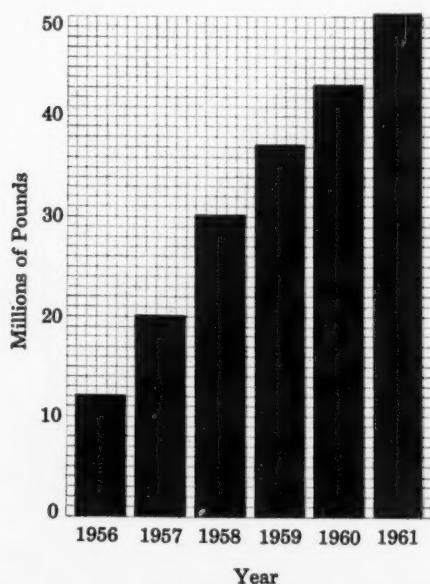
Prepared by Chemstrand engineers, this is the first section of a two part report on the status of textured nylon. It is encyclopedic in scope and authority.

**I**N RECENT YEARS methods have been devised whereby a change in texture and an increase in the bulk and stretch characteristics of nylon yarns can be obtained by putting a permanent crimp, loop, coil or purl into otherwise smooth, parallel, continuous filaments. Such yarns are known as textured yarns. They may be of either the stretch, modified stretch, or bulk type.

Textured yarns offer one of the most promising areas for the future growth of the nylon market. Their development has already opened up an infinite number of new end uses for filament nylon in fields that were formerly dominated by spun yarns—for example in rugs, carpets, and in fabrics with the texture, hand, and covering power normally associated with staple fibers. In many cases, the use of textured yarns in men's and women's hosiery, underwear, and sweater lines enables manufacture of a one-size item which fits several sizes of wearer.

Textured yarns are identified by a variety of trademarks, for example: Agilon, Flufion, Helanca, Saaba, Spunized, Superloft, Taslan, Texturalized, and Tycora. They are produced by throwsters, yarn processors knitters, and weavers who usually operate under license from the licensor of the particular texturing process involved.

The rapid increase in the production and consumption of textured nylon in the U.S. during 1956, 1957, and 1958 together with a conservative estimate of the new market for textured nylon through 1961 is indicated in Figure 1.



Note that 12 million pounds of continuous filament nylon were modified into bulk and stretch yarn during 1956. Production and consumption jumped to 20 million pounds in 1957 and to 30 million pounds in 1958. By 1961, it is conservatively estimated that production and consumption of textured nylon yarn in the U.S. will exceed 50 million pounds per year.

Key factors behind the industry-wide swing to textured nylon include its ability to stretch, to bulk, to look like spun yarn, and to give warmth without undue weight.

### New End Uses for Textured Nylon

At the present time, textured nylon is being used extensively in knit goods such as sweaters, half-hose, and socks. However, in addition to these end uses its versatility creates unlimited possibilities in other areas. For example in woven fabrics, tricot fabrics, and carpets. Recent market surveys indicate that the following items offer rapidly expanding new markets for textured nylon: automobile upholstery, blouses, domestics, girdles, infants' wear, intimate apparel, leotards, lingerie, men's shirts, men's underwear, military uses, rugs and carpets, sheets, slippers, sportswear, summer suits, and swim suits.

### Advantages of Textured Nylon Fabrics

Some of the advantages of fabrics knitted and woven from textured yarns of nylon are as follows: They simulate the characteristics of fabrics constructed from hi-bulk spun yarns and give certain additional plus values such as non-pilling, absence of broken filaments, and greater durability. They combine the high abrasion resistance, strength and toughness of nylon with bulk, comfort, high thermal insulation, and satisfactory moisture absorption properties.

In many cases their use enables garment manufacturers to produce stretch-to-fit-items. (This is more economical to both manufacturer and seller in that both parties can work with smaller inventories and thereby cut costs.)

Their texture can be varied from one of unusual softness to one of firm crispness depending on the method and conditions under which the nylon has been textured.

The fabrics are extremely durable: they are easy to wash and dry rapidly.

The fabrics do not felt and can be made dimensionally stable.

Fabrics—woven and knitted from textured yarns of nylon feel warmer than do fabrics constructed from

Figure 1

regular nylon. This is because regular untextured nylon removes body heat faster than textured nylon due to its greater area of surface contact with the skin. Both laboratory and wear tests have shown that fabrics woven and knitted from textured yarns of nylon have similar surface characteristics to fabrics constructed from spun yarns, in that both type fabrics have a lower real area of contact with the skin.

Finally it should be mentioned that fabrics knitted and woven from textured yarns of nylon have tremendous versatility—because of their ability to stretch, to bulk, to look like spun yarns, and to give warmth without undue weight.

### THE TEXTURIZING PRINCIPLE

The usual process for texturing nylon consists of a five-phase, high speed, continuous operation.

In phase one the yarn is removed from the bobbin. In phase two the individual filaments of the yarn are displaced from their natural and relatively close-packed positions either by mechanical distortion, for example twist, or by other means.

In phase three the displaced filaments comprising the yarn are made to assume a permanent configuration—for example by heat setting.

In phase four the forces which caused filament displacement in phase two are removed—for example by untwisting if the filaments have been displaced by twisting, so that the yarn assumes permanent bulk and/or stretch characteristics, particularly after relaxation.

In phase five the textured yarn is wound on a suitable package.

The method and conditions under which the yarn is textured determine the type filament configuration. This configuration—be it coil, curl, crimp, or loop ultimately determines the bulk and/or stretch characteristics of the textured yarn. The characteristics of typical bulk, stretch, and modified stretch type textured yarns are described below:

#### Bulk Yarns

Bulk yarns e.g. "Spunized," "Texturalized," and "Taslan" are continuous filament yarns which have been modified to give greatly increased mass or bulk per unit length. Bulk yarns exhibit varying degrees of stretch depending on method and conditions under which the yarn has been textured. However, the bulk is permanent, irrespective of whether the yarn is in a relaxed or extended condition.

#### Stretch Yarns

Stretch type yarns e.g. "Helenca," "Fluflon," "Superloft," and "Agilon," are characterized by high elongation, rapid recovery, and permanent crimp re-tentivity. Stretch yarns are used extensively in growth type garments where stretch is of primary importance and bulk and coverage are of secondary importance. In designing fabrics woven and knitted from stretch yarns, due allowance should be made for the relaxation and increased yarn bulk when tension has been released.

#### Modified Stretch Yarns

Modified stretch yarns e.g. "Saaba," "Helenca" SS, and "Helenca" SW, are stretch type yarns which have been modified under controlled conditions of tension, temperature, and heating-time to remove some of their stretch yet retain maximum bulk.

As might be expected there are certain basic differences in the stress-strain characteristics of typical bulk, stretch, and modified stretch type textured yarns. Some of the differences in the initial extensibilities of "Saaba," "Superloft," "Taslan," and "Texturalized" textured yarns of nylon are indicated in the stress-strain curves drawn in Figure 2.

### BULK YARNS (CRIMP TYPE)

#### Texturalized and Ban-Lon

"Texturalized" and "Ban-Lon" are registered trademarks for end products and continuous filament yarns modified by a process licensed by Joseph Bancroft and Sons Co. to certain qualified licensees.

"Texturalized" and "Ban-Lon" are crimp type bulk yarns. Recently, certain sizes of "Ban-Lon" yarn were changed to the designation "Texturalized."

There are five basic steps involved in the conversion of straight continuous filament yarn into "Texturalized" yarn. These are as follows:

1. **Crimping:** The yarn is crimped on a cone winder equipped with a special crimping unit (See Figures 3 & 4). The crimping unit consists of two feed rolls and a brass-tube stuffer box. By compressing the yarn into the stuffer box, the individual filaments are caused to fold or bend at a sharp angle. This crimps them. The yarn is simultaneously heat-set during compression by an electric heating element around the stuffer box.

2. **Cleaning:** The yarn emerging from the stuffer box is cleaned of broken filaments and similar imperfections.

(Continued on Page 42)

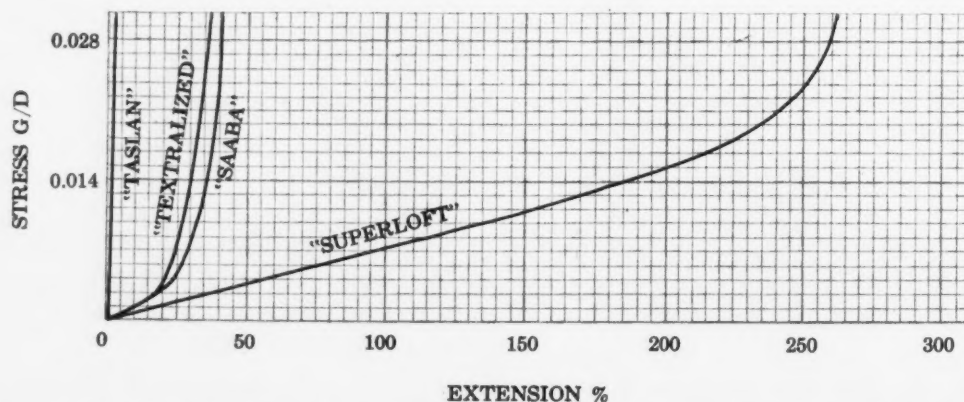


Figure 2—Stress-Strain Curves showing initial extensibilities of typical Taslan, Texturalized, Saaba, Superloft 70/34 SD textured yarns (unsteamed) of Chemstrand nylon.

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# THE TEXTILE-APPAREL INDUSTRY

Vycron introduces the new era in polyester fibers. Important advances in quality place a world of new fabric achievements within reach of mill and converter . . . open up vast new possibilities for the garment manufacturer.

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Greater strength, for example, making possible a lighter, sheerer, and at the same time, more serviceable fabric and garment. Greater

affinity for dyestuffs, giving the fabric designer a more effective palette for his creative ideas.

Greater resistance to pilling, offering the consumer better-looking, longer-lived apparel. A softer, more pliant touch, producing a new standard of suppleness, drapeability, and luxury-of-hand in fabrics made with polyester fiber.

These are but a few of Vycron's superiorities, with supporting evidence direct from the scientific laboratory. For the complete story of the fiber and its merchandising support . . . please contact us immediately.

**Vycron** is produced from **Vitel®**, Goodyear's revolutionary new polyester resin.

**VYCRON POLYESTER FIBER** is now being produced in the following forms:

**STAPLE** in 1½ and 3 denier, for industrial and apparel fabrics.

**SPECIAL PROCESS YARNS** Vycron filament yarn, combined with other yarns such as Bemberg® or rayon, for unusual surface interest in apparel and decorative fabrics.

**TOW** for Pacific Converters in 1½ and 3 denier for industrial and apparel fabrics.

**TOW** for Direct Spinners . . . to be spun into yarns for blouses, skirts, underwear, dresses, suits, rainwear and industrial fabrics.

#### **CONTINUOUS FILAMENT YARNS**

420 denier and greater, in 1½ and 3 denier per filament, for industrial uses.

**VYCRON** is America's only polyester fiber tested, quality-controlled, and certified under a regular program by the U. S. Testing Company.

We invite you to send for data sheets on Vycron. Ask, too, about our Vycron merchandising support program and how it can help you step-up sales. Call LE 2-3520.

## BEAUNIT MILLS, INC.

### Fibers Division

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Plant: Elizabethton, Tenn.

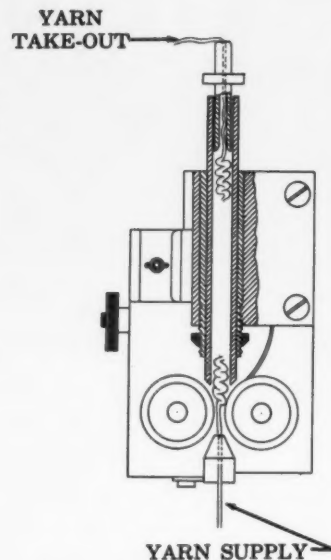
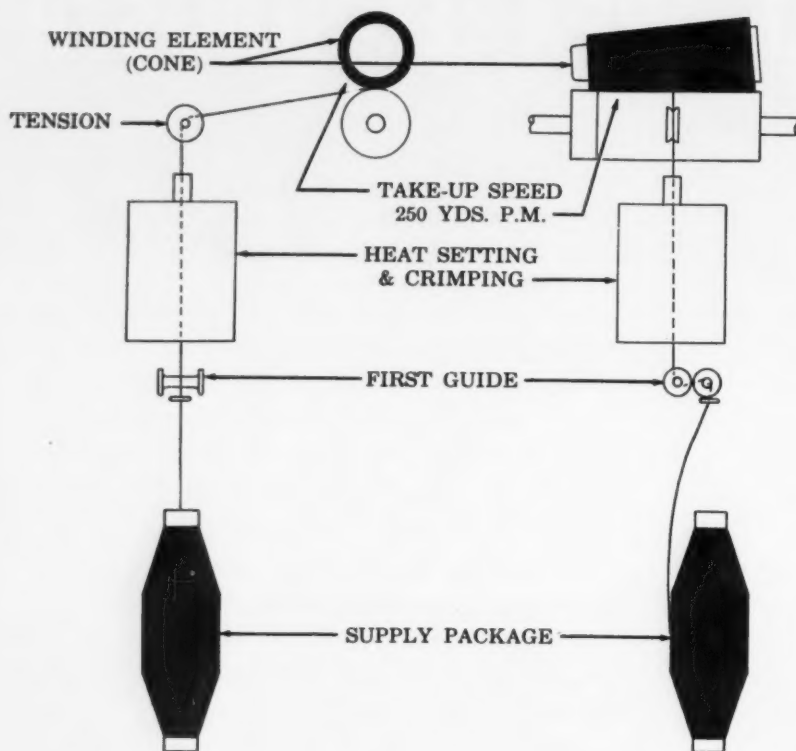


Figure 4—Crimping apparatus patented by Joseph Bancroft & Sons Co.

Figure 3 (left)—Threadline diagram of typical crimping process.

## Textured Nylon Yarn

(Continued from Page 38)

3. **Oiling:** A lubricating oil is applied to the yarn both after cleaning and in the final coning operation. This insures uniform and low tensions in the yarn during subsequent processing and fabrication steps.

4. **Ply Twisting:** Although the type of nylon most commonly used for "Textralized" yarn (as with most other type textured yarns) is 70/34/SD, other yarn sizes ranging from 30 to 200 denier are also widely used. "Textralized" yarns are often plied (usually 2-5 plies) to increase total yarn weight; hold the individual filaments together; and minimize filament breakage and snagging. Plying is usually carried out on a doubler frame.

5. **Finish Winding:** The "Textralized" yarn is lubricated and wound on cones in preparation for weaving and knitting. Uniform yarn tensions are mandatory throughout the entire Textralizing operation. Also, all yarn guides and contact surfaces should be perfectly smooth. The crimp in "Textralized" textured yarn does not fully develop until the yarn has been allowed to relax. Relaxation is usually carried out by scouring at 80-90°F followed by extraction and tumble drying at 160°F.

"Textralized" textured yarn is characterized by a wavy irregular zig-zag crimp (see Figure 5) which gives the yarn: Its soft bulky hand; Added volume in the range 200%-300%; Sufficient elasticity to provide a snug fit in garment form; Increased moisture absorption for wearing comfort.

### End Uses

Men's, women's and children's sweaters and sport shirts; half hose; woven and knitted fabrics for lingerie; men's and women's blouses; underwear; girdles and brassieres; dresses and uniforms; leotards.

### Spunized

The Spunize process consists of simultaneously crimping a large number of ends in warp form using the stuffer box technique; this is followed by heat-setting in an autoclave. Through the use of special attachments, the Spunize process is able to provide maximum bulk where needed, or alternatively inhibit bulk to the desired degree.

Fabrics constructed from "Spunized" textured yarn are characterized by a smooth, and bulky surface texture. A typical "Spunized" textured yarn of nylon is shown in Figure 6. "Spunized" is a registered trademark of Spunize Co. of America.

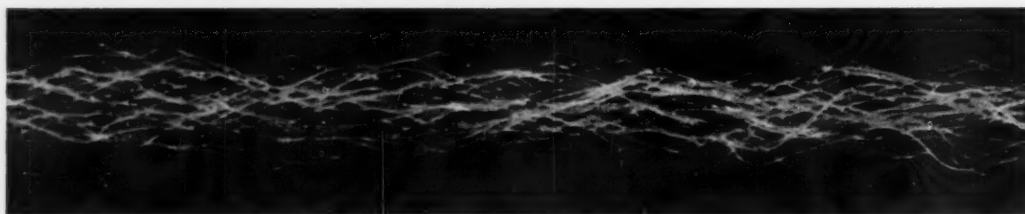


Figure 5—Photomicrograph showing wavy, irregular, zig-zag crimp in Textralized textured yarn of Chemstrand nylon.

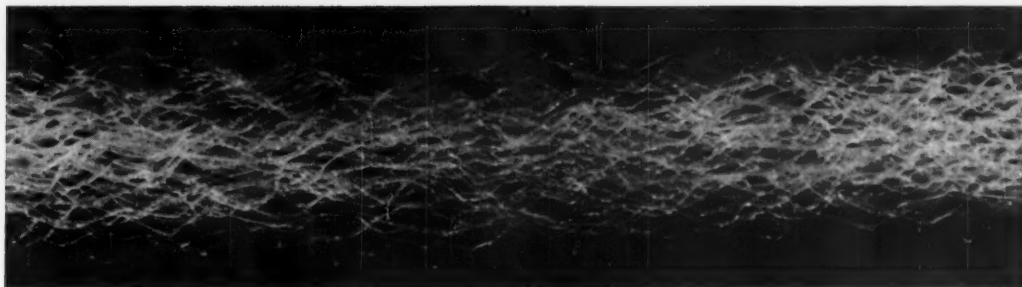


Figure 6—Photomicrograph showing a typical Spunized textured yarn of Chemstrand nylon.

The heavier deniers of "Spunized" textured yarn are expected to have important end use applications in rugs, carpets, and upholstery fabrics. The lower deniers are now being used with excellent results in woven and knitted fabrics—including tricot.

#### **Tycora**

The registered trademark "Tycora" is used to identify textured yarns produced by the Textured Yarn Co., Inc., and its foreign licensees.

Since the trademark "Tycora" is used to designate textured yarns processed under several techniques owned and controlled by Textured Yarn Co., Inc., "Tycora" symbolizes a source of manufacture and not a method of manufacture. Individual characteristics of "Tycora" textured yarn depend on the particular processing technique involved. A typical "Tycora"

textured yarn of nylon is shown in Figure 7.

Some Tycora end uses are: sweaters; swim suits; gloves and hosiery; carpets; upholstery; draperies.

#### **BULKY YARN (LOOP TYPE)**

#### **Taslan**

"Taslan" is a registered trademark and a patented process of the Du Pont Co. which grants licenses to users. The process for producing "Taslan" textured yarn consists of feeding a yarn through the turbulent region of an air jet at a faster rate than it is drawn off by take-up rolls on the far side of the jet. In the jet, the yarn structure is opened, loops are formed, and the structure is closed again.

The texturing process locks some of the loops inside and leaves others on the surface of the yarn. As in

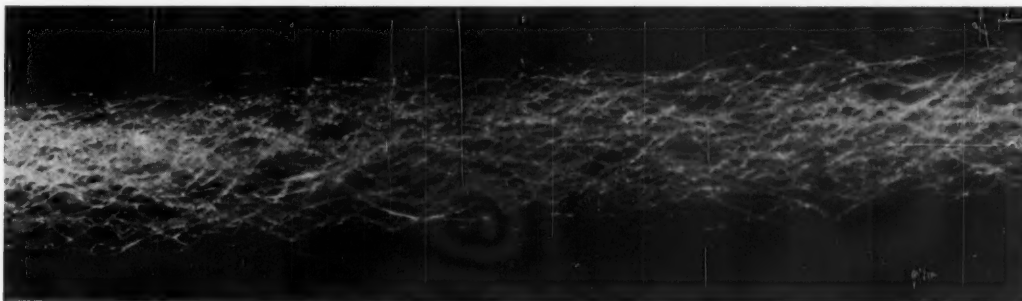


Figure 7—Photomicrograph showing typical Tycora textured yarn of Chemstrand nylon.

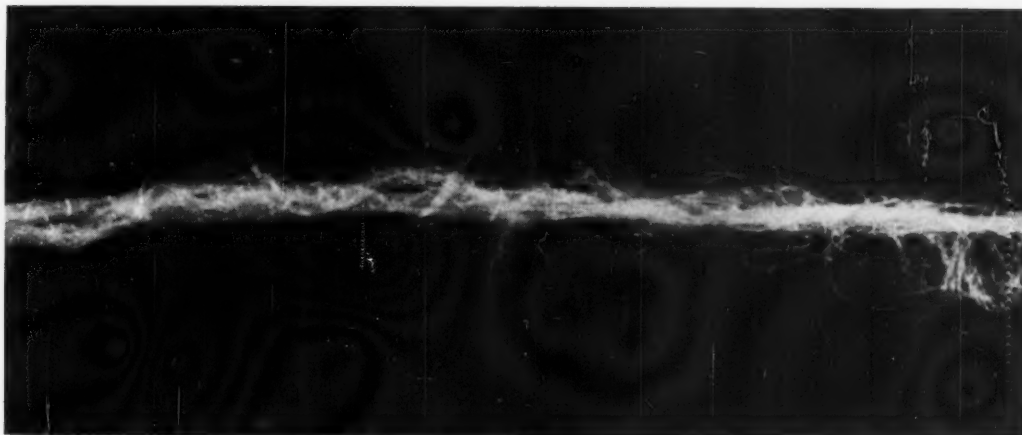


Figure 9—Photomicrograph showing loopy structure of Taslan textured yarn of Chemstrand nylon.

most textile operations, there are several different types of equipment capable of accomplishing the job; therefore there would be several different yarn path possibilities. One of these possibilities is illustrated in the schematic drawing shown in Figure 8.

"Taslan" textured yarn does not stretch: the chemical properties remain unchanged, and the looped structure is capable of bearing the tension normally associated with the usual textile processing operations.

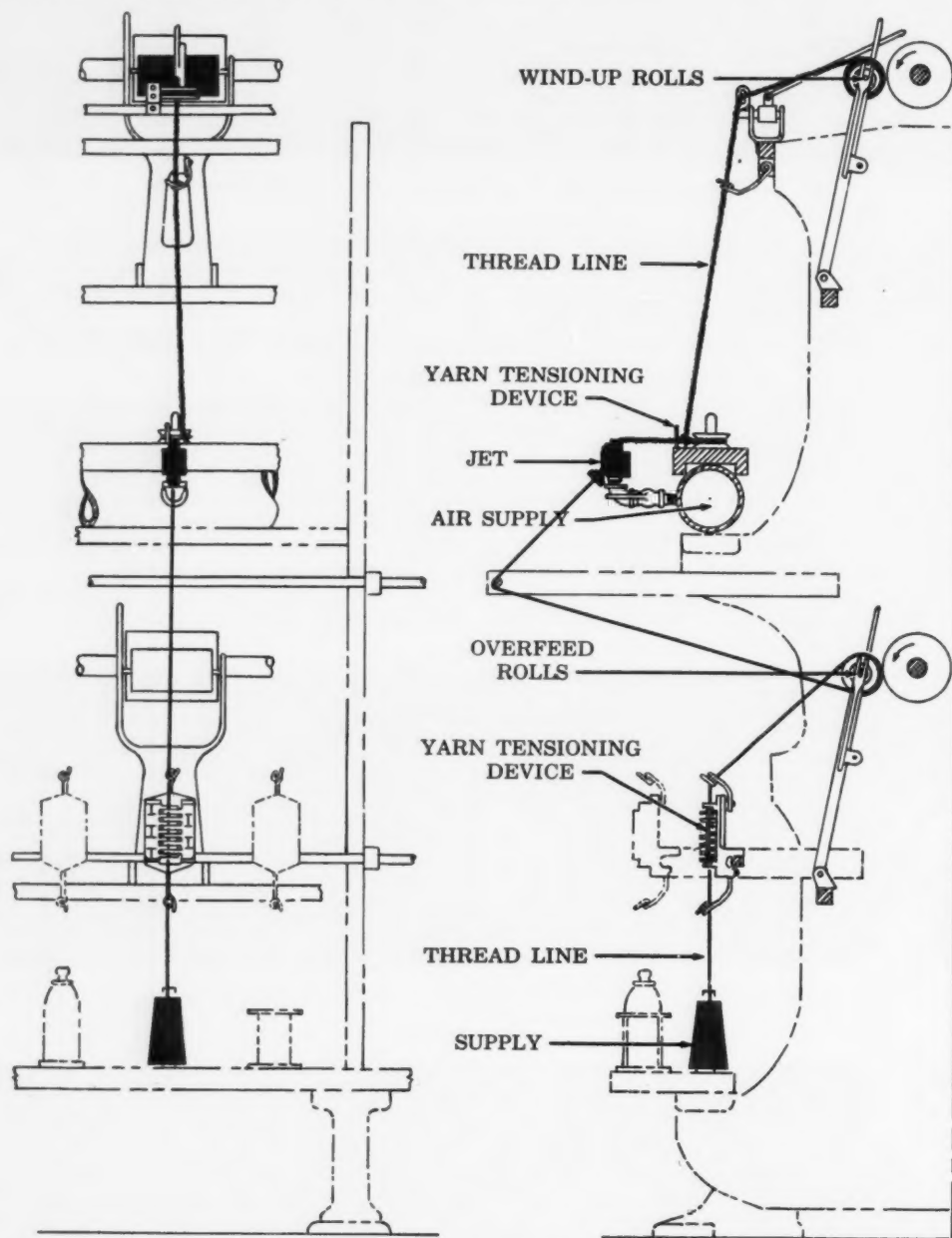


Figure 8—Diagram of converted Whitin RD-5 Uptwister for production of Taslan textured yarn.

Courtesy Du Pont Co.

### Characteristics of Taslan

The denier of the resultant yarn is higher than that on the supply package, and the amount of increase can be controlled by adjusting the relationship between feed and take-off speeds. Although the yarn is only 15%-20% shorter after bulking, it normally increases from 50%-100% in volume. The covering power of fabric knitted or woven from "Taslan" textured yarn is usually 75%-100% greater than that of untextured fabric.

A typical "Taslan" textured yarn of nylon is shown in Figure 9.

Some "Taslan" end uses are: upholstery; sewing thread; carpets; shirtings; blouses and dress goods; men's and women's outerwear fabrics. ■

The final section of this report will appear next month. It will present a broad discussion of all types of stretch yarns. Also presented will be an easy reference table of textured yarn trademarks, trademark owners, licensors, and equipment.



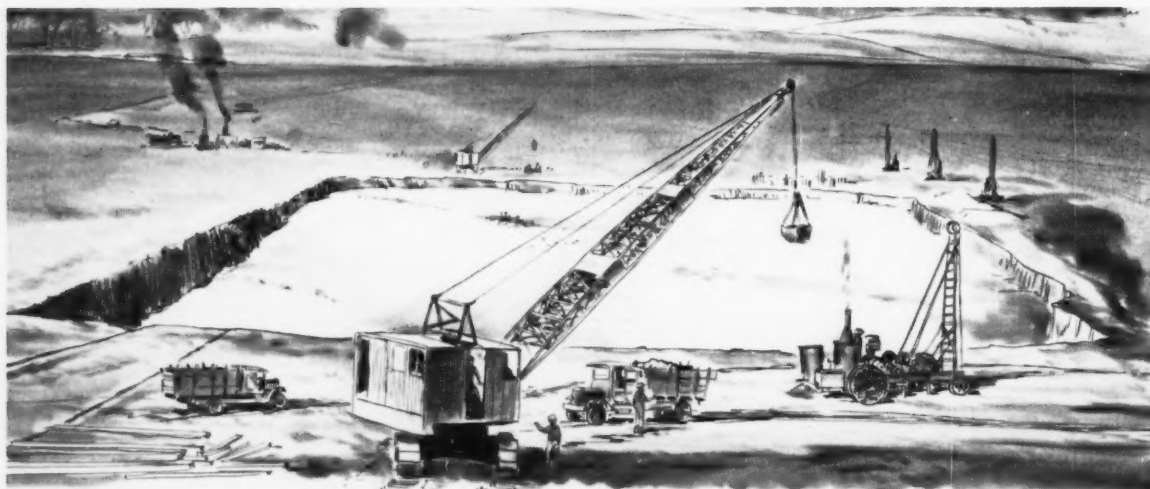


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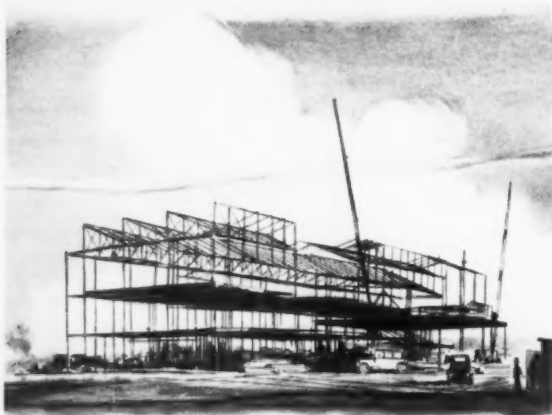
July 1, 1929,  
Seven Miles West of Asheville  
*... And You Are There!*



**EXACTLY 30 YEARS AGO TODAY**, American Enka Corporation "spun-in" what has remained a continuous output of viscose rayon. From an original capitalization of \$16 million, the Dutch-founded company's growth during three decades has resulted in a current investment of approximately \$120 million. Sales climbed from \$3.7 million in 1930 to \$73.5 million in 1958, with this year's first-quarter sales at a \$100 million rate.



**HOMINY VALLEY AWAKENS**—Ten months earlier, steam shovels had taken their first bite of the 2,100-acre tract in sleepy Hominy Valley, seven miles west of Asheville, N. C., chosen by Enka for its first production plant. A second plant, producing over 60 million pounds of tire and industrial yarn, and a third plant with an annual capacity of over 63 million pounds of rayon staple were built in Lowland, Tenn., and started up production in 1948 and 1957.



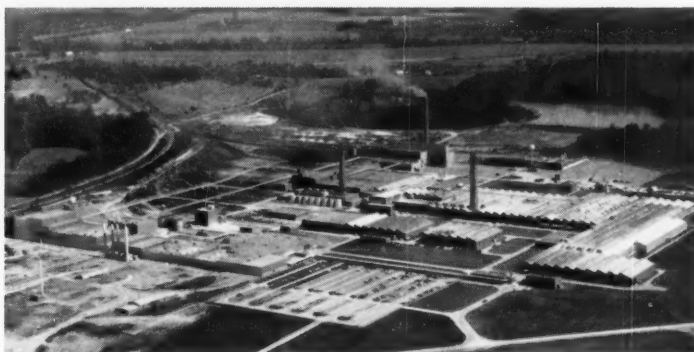
**WITHIN TWO MONTHS** after ground was broken, a great steel structure began to grow in the middle of a creek-notched meadow in Western North Carolina. From a company payroll of \$1.9 million the first full year of production, Enka now employs over 5,900 men and women and had a payroll last year of \$24.8 million. Enka now ranks as the country's second largest producer of rayon, a major producer of Tyrex tire yarn and a substantial manufacturer of nylon.

**ENKA, N. C., PLANT**—Operating under 50 roofed acres the Enka (N. C.) plant is the nerve center of the Enka operation. Administrative offices will be located here early next year, a stone's throw from the sprawling rayon filament plant, the towering nylon installation and the sleek research center. The Enka plant, and its younger companion plant in Lowland, Tenn., have a production capacity of more than 150 million pounds.



July 1, 1959—  
Enka Today!  
*... And You Are Here.*

**ENKA WAS FOUNDED ON A NEW IDEA**—the manufacture of man-made yarn. New ideas have made Enka grow. The idea of concentrating marketing and manufacturing executives—separating them by a matter of feet instead of miles to accelerate and merge the development, production and selling functions—became a reality this Spring when ground was broken for Enka's new corporate office building by William Gage Brady, president, flanked by Dr. Frits Prakke, vice-president, manufacturing, and Dr. Martin Wadewitz, technical vice-president.



**LOWLAND, TENN., PLANT**—While the Enka plant facilities have grown steadily the past three decades, another modern rayon plant has blossomed at Lowland, Tenn. The plant was "started up" in 1948

to satisfy the heavy demand for rayon tire cord generated during World War II. Shown in the left foreground of the photo is the \$25 million rayon staple fiber plant added to the Lowland facilities in 1957.



...so many good things begin with **ENKA**



**NO EXPENSE WAS SPARED** by Enka in acquiring the finest equipment here and abroad for its nylon facility at Enka, N. C., which went "on stream" in 1954.



**THE PLANT IS BRAND-NEW**—and still growing. Construction has begun on a \$9.3 million program which will more than double Enka's nylon yarn and fiber capacity.

## ENKA NYLON full-fledged member

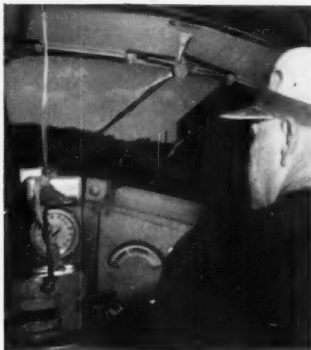
**THIS IS THE HEART OF THE NYLON PROCESS.** Polymer chips are leaving the feed hoppers and entering the melter. Then, the molten polymer will be pumped through spinnerets.



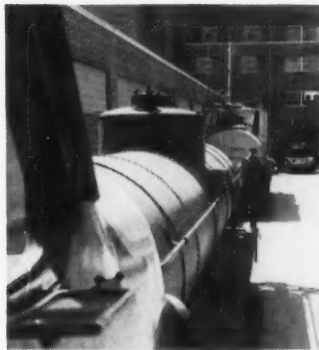




**ENGINEERED FOR EXPANSION**—The gleaming metal side walls of the nylon plant are temporary. They were made to be knocked out for further expansion. The plant is a scant five years old and this is the second major expansion program—the first was completed last summer.



**TRAIN LOADS OF CAPROLACTAM** feed the Enka nylon plant. This raw material produces a synthetic polyamide fiber that has all the performance features of conventional nylon—plus new and different properties that give added functional and fashion appeal to end-products of Enka nylon.



of the Enka family of fibers and yarns...



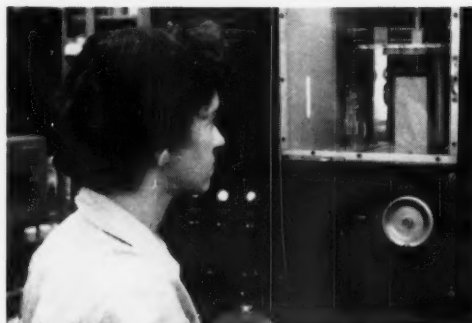
...so many good things begin with

**ENKA**

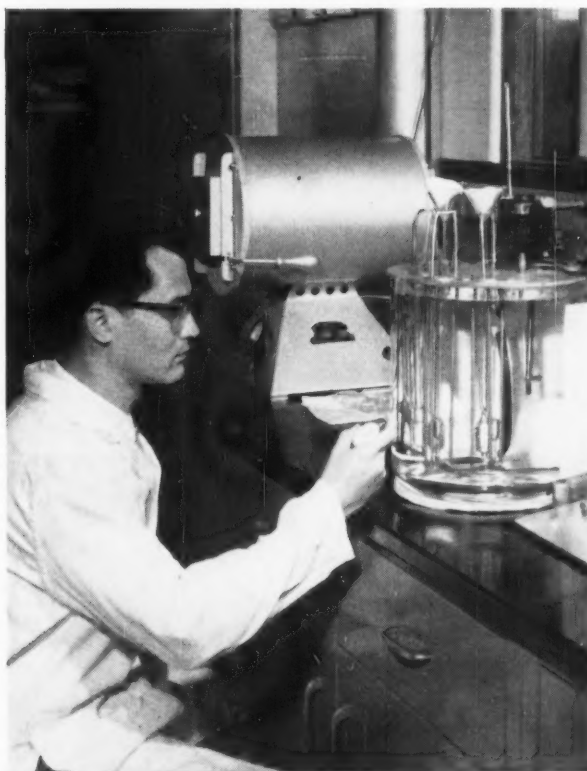
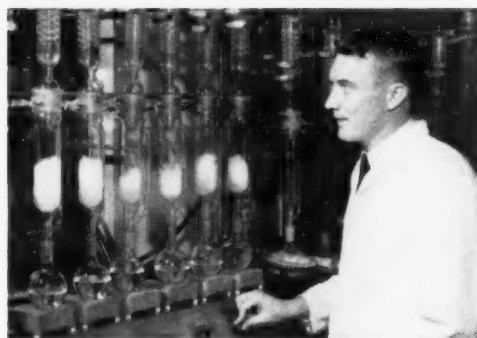
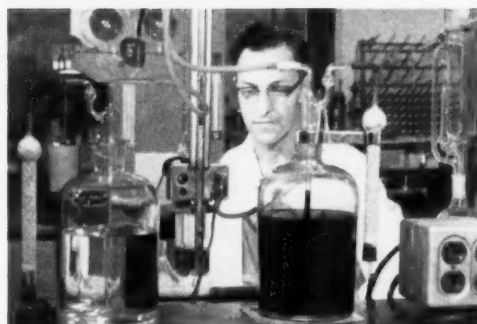
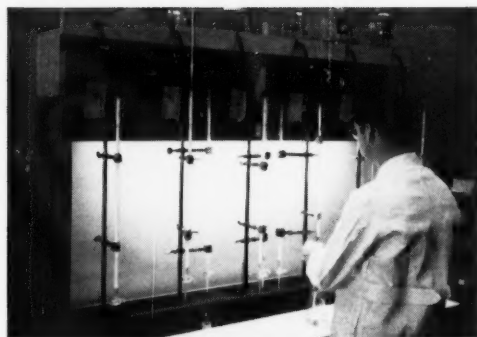
24 hours a day...every day of the year...



**FOUR WOMEN AT ENKA** with nylon quality on their mind. Samples of yarn are scrutinized on the seriplane boards during a continuous "lineup" for quality. Yarn is placed on black velvet for visual checks. The Vibroscope is tuned in on a staple fiber denier check, while filament denier is checked by the skein method.



**ENKA NYLON** is produced on a  
continuous basis to insure uniformity.



**A TWENTY-FOUR HOUR VIGIL** every day by bright young nylon experts such as these dedicated men is the secret of Enka's eminently successful quality-control program. Constant testing of raw material, fiber and yarn is an around-the-clock ritual in Enka's nylon plant. There is no short-cut to producing fibers and yarns that earn customer satisfaction because of proven mill efficiency.



...so many good things begin with **ENKA**

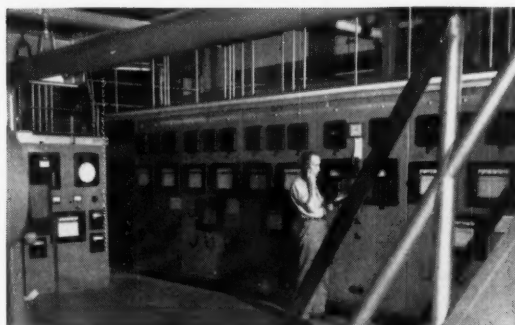
# ENKA NYLON makes possible fabrics with

**END-PRODUCT RESEARCH**—Gray hosiery are placed on boarding forms in Enka's end-product research and development laboratory for a lab-controlled finishing bath. Independent testing organizations and hosiery manufacturers using Enka nylon agree that this yarn produces stockings with a new kind of cling. Because of its different molecular structure, this is the hosiery yarn with superior elasticity and recoverability. This is the yarn that assures a perfect fit. No crooked seams. No baggy ankles. Why? Because Enka nylon fits the shape of the boarding forms perfectly for either full-fashioned or seamless hosiery. You know that *really* perfect boarding means that the finished stockings are slightly narrower in flat measurements. They will cling beautifully to any size legs... and they will never strain.





new performance features!



**THE EYES AND INSTRUMENTS OF ENKA** are continually focused on every step of nylon production. Since the polymerization of Enka nylon occurs on a continuous basis, there is more uniformity in the polymer itself. This uniformity is not matched by nylon yarn produced on a batch basis.



...so many good things begin with **ENKA**



**BALED, STORED, SHIPPED**—by truck and train—Enka nylon fiber and yarn moves out of the plant and into the leading knitting and weaving mills of America. So successful has Enka been in marketing its new nylon that production capacity is being expanded at an accelerated pace.



**AT OPPOSITE ENDS** of the manufacturing-merchandising chain: Enka nylon yarn is sorted and packed in Enka, N. C. . . . and a thousand miles away, and months later, a consumer unpacks a brand-new textured nylon sweater of Enka yarn, the softer, more absorbent nylon that takes dyes like no other nylon.



**THE BEGINNING AND THE  
END**—the creel is loaded for  
Enka nylon tricot warping  
... and the tricot, many steps  
later in the distribution chan-  
nel, appears in fashionable  
loungewear.



...so many good things begin with **ENKA**

# Through successful research,



**WITHIN THESE WALLS** work is continuously directed toward improving Enka's yarns and fibers for a market which demands better and better quality, and developing new yarns to expand Enka's contribution to the textile industry. Today, a static company is a dead company. Through successful research, Enka is building for the future.

The research center focuses its energies on the development of new and improved Enka fibers and yarns... the development of methods for expanding the use of our products ...and most important, to devise new ways of maintaining Enka's meticulous care in manufacturing. Intense research has made quality a trademark of Enka for 30 years!



**BUSINESS AND TECHNICAL LIBRARY**—A steady flow of reference material provides up-to-the-minute information about current developments outside Enka. Translations are made of the many Dutch, German, French and occasional Russian and Spanish reports, documents, letters and patents sent to Enka from European sources. Enka's translation unit helps coordinate research efforts among the many European companies affiliated with Enka.



# ENKA builds for the future!

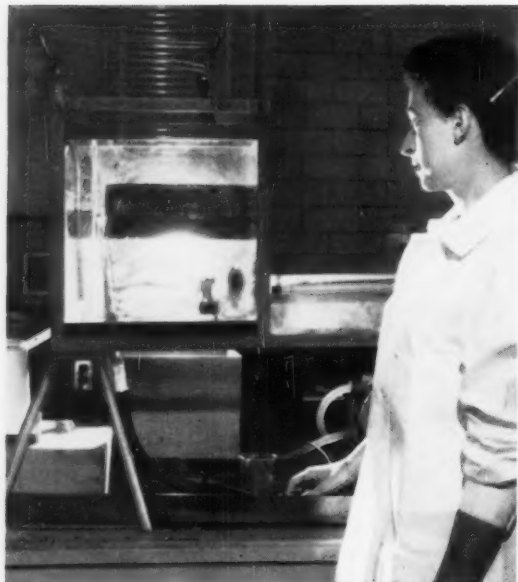
**A STREAM OF ELECTRONS** provides the light source for this electron microscope, providing tremendous magnification.



**FUNDAMENTAL LAB**—Research chemists study the many chemical changes which take place in producing rayon and nylon yarn. Basic principles of chemistry are put to work to improve Enka processes and products and to give production personnel unparalleled control over fiber and yarn quality.



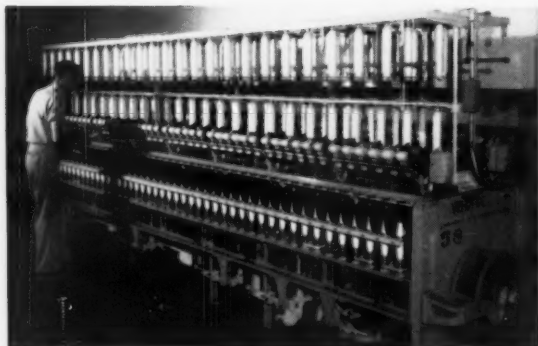
...so many good things begin with **ENKA**



at **ENKA**

there is no short-cut

**NEW METHODS** of testing textile properties are developed by scientists and technicians in the Standards, Electronics and Physics Laboratories, as well as the building of new instruments. As new end-uses for rayon and nylon are explored and new synthetic fibers are developed, it becomes increasingly important to know as much as possible about *all* the properties of a fiber. This knowledge helps Enka make a better product—helps Enka advise its customers on the best methods of processing Enka yarns in their plants.

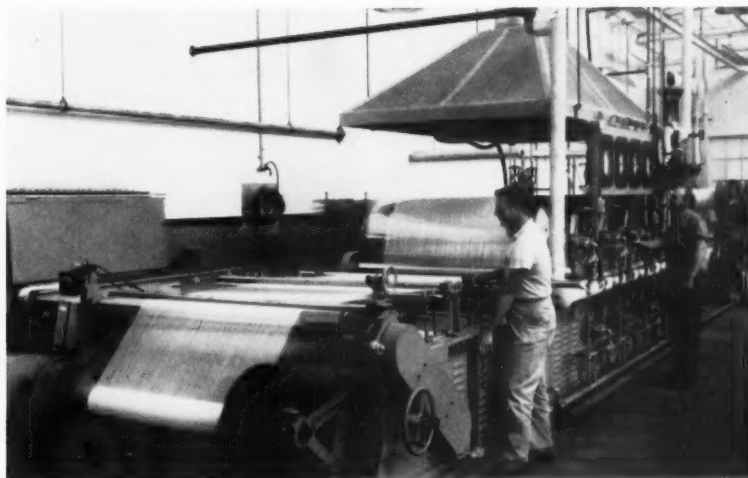


**POLYMER PILOT PLANT**—Process techniques for the manufacture of nylon developed in the laboratory are thoroughly evaluated on a small-scale production basis in this pilot plant (twisting equipment shown).

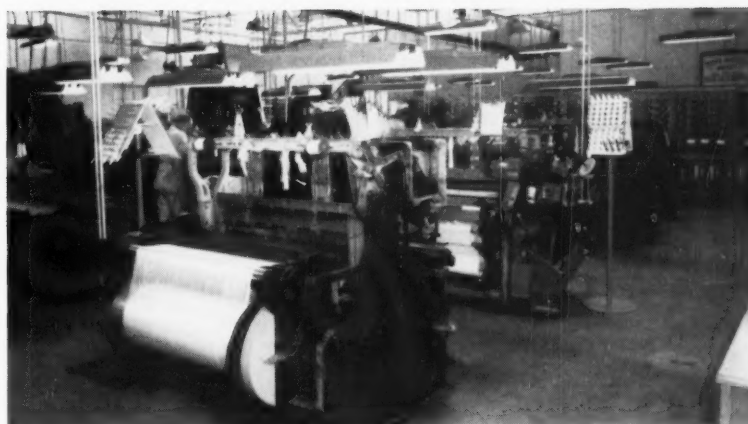


**X-RAY LABORATORY**—This X-ray diffraction machine is used to acquire information about the size and arrangement of the tiny crystalline regions that give rayon its strength. The long cellulose molecules which make up a rayon filament tend to bunch together in little bundles; the nature of these bundles strongly affects the properties of the fiber, such as its strength and fatigue life. This is true of most polymers, and Enka is using this sort of information to improve its understanding of what characteristics make fibers and yarns of the highest quality.

to quality!



**MILL PRODUCTION** is duplicated on big equipment in textile research areas in the main plant.



**THE RESULTS OF RESEARCH** depend wholly upon accurate measurement and evaluation of the effect of each variation introduced into the process. In the Research Center's textile laboratory, precision test equipment is used to measure each characteristic of the yarn or fiber...and to point out the direction for every step taken in improving Enka's products.



...so many good things begin with **ENKA**







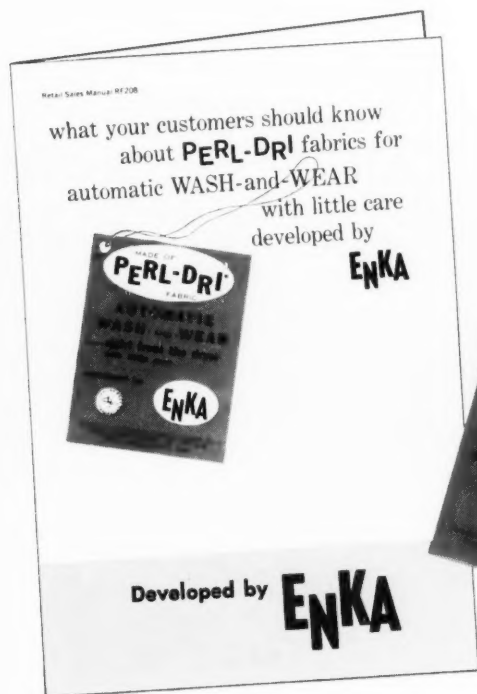


*Wash-and-hang draperies of Enka yarns.*

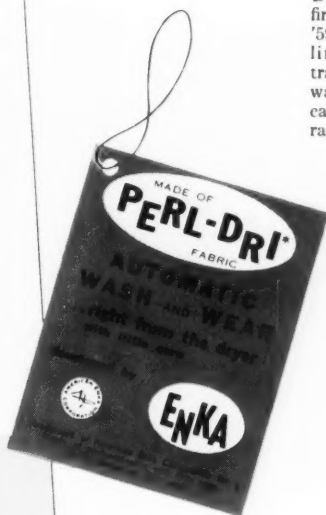
**THE \$2-MILLION RESEARCH CENTER**, with a staff of over 200 scientists and technicians, represent only a portion of Enka research. Yarn development centers in the many European companies affiliated with Enka provide the American team with a constant flow of textile research data. In addition to Enka's research center, the main plant contains applied chemical research laboratories, a fiber pilot

plant and complete processing units for knitting, weaving, dyeing and finishing experimental fabrics. A product of Enka's "wash-and-use laboratory and processing unit" are wash-and-hang drapery fabrics. Working hand-in-hand with some of the nation's leading mills and finishers, Enka offers the industry a program of recommended fabric constructions and tested ease-of-care finishes.

and exciting opportunities for *you!*



**WASH-AND-WEAR**—Enka's newest development, "Perl-Dri" fabrics, will make their first appearance in Holiday '59 and Spring '60 apparel lines. Perl-Dri is Enka's trademark for a family of wash-and-wear, with little care, fabrics containing Enka rayon.



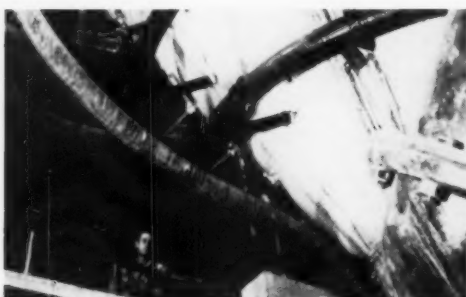
...so many good things begin with **ENKA**



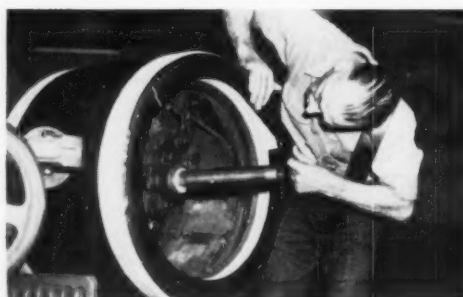
**SEWING THREAD.** For greater strength, uniformity and fast performance, Temptra high tenacity sewing thread is available for both the bag closing trade and for multi-wall bags, in various sizes, on large knotless cones.



**FOR CONVEYER BELTS.** The highest standards of uniformity and dimensional stability in Enka's super-strength high tenacity rayon yarns for conveyer belts. Also available for V belts.

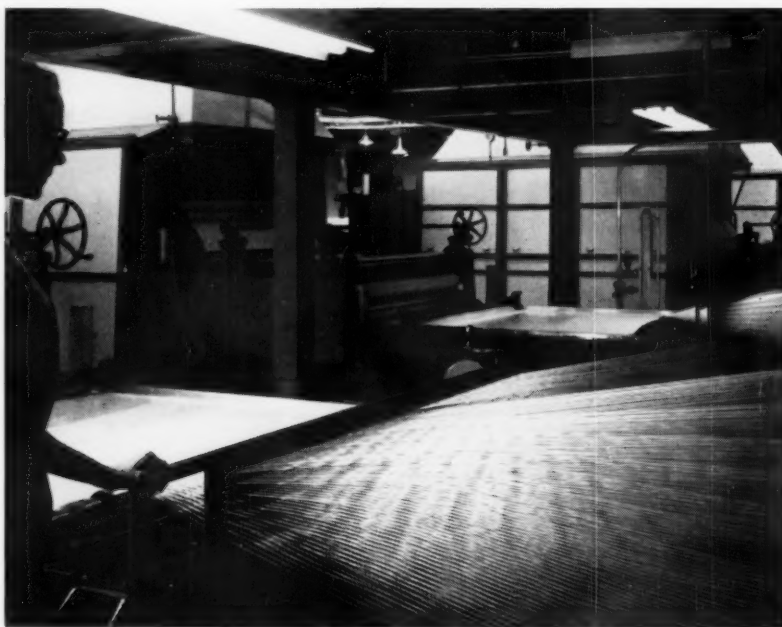


**FOR INDUSTRIAL HOSE.** Super-strength Enka yarns are available in a variety of sizes—all on large knotless cones for hose to fill almost every industrial need.

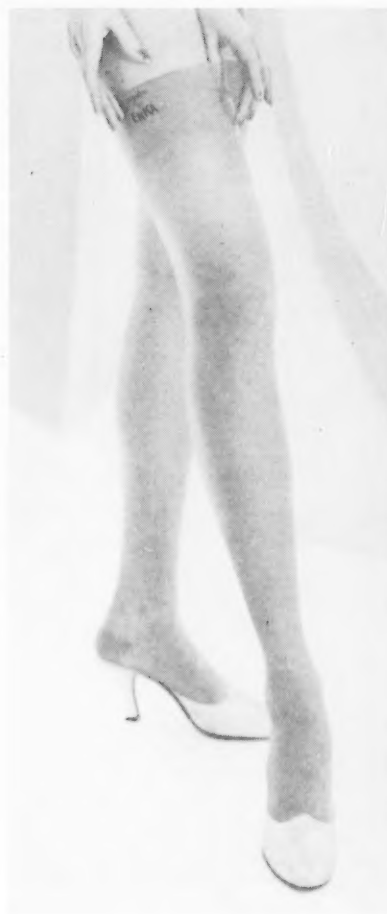


**FOR CHAFER FABRICS.** High tenacity yarns for chaffer fabrics for tubeless tires on beams for warps and cones for filling.

**NINETY-NINE PER CENT OF ALL NEW CARS** are rolling off American assembly lines on tires made with Tyrex viscose yarn—and over 20 per cent of that yarn is produced by American Enka Corporation. Sales of Tyrex tire cord amount to over 50 per cent of Enka's total business.



**NEW ENKA NYLON** has a particularly good application for textured and stretch yarns because of its different molecular structure. Softer, more absorbent, with greater elasticity and recoverability, Enka nylon yarn gives sweaters and sport shirts new comfort, as well as greater cling and resiliency for stockings, tights and half-hose. Enka's super-absorbency enables knitters to achieve brilliant new colors that envelope the yarn in rich, even tones—all sharp, clear and uniform.



**NEW WELT YARNS** — Enka's leadership in the research and development of nylon yarns engineered specifically for hosiery manufacturers is reflected in Enka's development of experimental 40/8 and 50/13 semi-dull low-shrinkage yarns for use in the welts of seamless hosiery. The low residual shrinkage of these experimental yarns permits hosiery manufacturers to knit the welt yarn directly from the pirn, without the customary twisting and pre-shrinking operation. The resultant savings in hosiery manufacturing production costs are obvious.

...so many good things begin with **ENKA**





Perhaps the secret of Enka's steady growth lies in the quality of its research...the quality of its production... and the quality of its marketing strategy. And from what does this quality spring? The answer is to be found on a sign beside one of the entrances to Enka's main installation: "QUALITY WALKS INTO THIS PLANT ON TWO FEET EVERY DAY".

...so many good things begin with

# ENKA



AMERICAN ENKA CORPORATION

530 Fifth Avenue, New York 36, N. Y.  
New York • Chattanooga • Greensboro • Providence  
Producers of Rayon • Nylon • Yarns • Fibers



# 2

*A new series for mill managers*

## Determining cycle times & ratios

By Thomas F. O'Connor

**D**uring the cycle time for one unit of production, a machine often has stopping spells interrupting the regular running time. When the machine is stopped, the operator has work to do on it. Some of this work, such as piecing up broken ends, has priority and may not be deferred without losing machine running time. Other work, however, such as cleaning, can usually be deferred without affecting running time. Thus, the higher priority non-deferrable work can proceed while the deferrable work is postponed until a more suitable time. While the machine is running, there is again deferrable and non-deferrable work. In addition, account must be taken of work performed by an auxiliary worker. These various elements of operation, occurring during the productive cycle of a machine, may be itemized specifically, as shown in Table I.

answer. These factors depend upon the number of machines,  $N$ , in the care of one operator and the cycle ratio  $p$ . This ratio will need explanation.

The cycle ratio,  $p$ , is the total duration of non-deferrable work (during run-time and stopped-time of the machine), done by the operator for each unit of production time he is not working on the machine, excluding the time the machine is stopped and waiting for him. Now, since non-deferrable work is denoted by  $t$  and  $t_s$ , and the part of the production cycle when the operator is not working on the machine is made up of  $(T - t_s) + t_a + i_a$ , it follows that:

$$p = \frac{t + t_s}{(T - t_s) + t_a + i_a}$$

TABLE I: TERMS USED IN DETERMINING MULTI-MACHINE WORK ELEMENTS

Items Occurring While Machine is Running	Symbol	Example, Using Drawing Frames For Illustration
1. Operator doing deferrable work.	$t_1$	Cleaning frame parts.
2. Operator doing non-deferrable work.	$t_s$	Creeling-in new sliver while old is running out.
Items Occurring While Machine is Stopped		
3. Machine waiting for operator.	$i$	Frame down, waiting for piece-up.
4. Operator doing deferrable work.	$t_a$	Cleaning frame parts.
5. Operator doing non-deferrable work.	$t$	Doffing cans.
6. Machine waiting for auxiliary worker.	$i_a$	Broken spoon to be fixed. Waiting for fixer.
7. Auxiliary worker at work.	$t_a$	Fixer repairing spoon.

Now if we designate by  $T$  the actual time a machine is running during a productive cycle, and the overall time of this productive cycle is  $H$ , then it is obvious that:

$$H = T + t + i + t_a + i_a + t_s$$

Or, in words, the overall cycle time consists of the actual running time plus the various types of stoppages that occur. Furthermore, since  $T$  is the only productive time in the cycle, we can determine machine efficiency:

$$\text{Machine Efficiency} = T/H.$$

Time study can give us all but one time element to form this ratio. The missing element is  $i$ , which depends upon the machine interference effect on average amount of waiting time loss. The productivity factors,  $A$ , shown in Table II will yield the

It will be noted that  $t_1$  and  $t_s$  do not enter, because they are deferrable items of work, and cannot give rise to machine interference. The expression in the denominator may be looked upon as the "equivalent machine running time" from the operator's viewpoint, since as far as he is concerned, the machine is not running at an equivalent of  $T$  but an equivalent of the expression in the denominator. Now, when there are no auxiliaries and the operator has only non-deferrable work, the values  $t_a$ ,  $t_s$  and  $i_a$  disappear from the expression above, so that we have simply,  $p = t/T$ . The value of  $H$  becomes  $NT/A$ , where  $A$  is found from Table II. For example, when  $p$  is 0.240 and  $N$  is 6, the table shows  $A$  to be 3.628. The factor  $A$  represents the number of machine running hours per hour, the meaning of which is discussed in the following.

Units of production are legion: picks, yards, pounds, number of cones, etc. But there is one common denominator, which is the machine running hour, mrh. Thus, if a loom has a speed of 120 picks per minute, then one mrh represents  $120 \times 60$  or 7,200 picks. The aforementioned A value of 3.628 mrh would mean  $3.628 \times 7,200$  picks or 26,200 picks. This conversion is, however, not needed for most calculating purposes. The unit of production mrh is as useful as any other unit. Unless stated otherwise, T is therefore assumed to always represent one mrh or 60 minutes, while t, t<sub>s</sub>, H, and all other time symbols will represent minutes per mrh.

TABLE II PRODUCTIVITY FACTORS, "A"  
Values of p.

N.	.101	.102	.103	.104	.105	.110	.115
1.	.908	.907	.907	.905	.905	.901	.897
2	1.801	1.800	1.798	1.796	1.794	1.784	1.775
3	2.676	2.673	2.669	2.666	2.663	2.646	2.629
4	3.528	3.523	3.518	3.513	3.508	3.481	3.455
5	4.353	4.345	4.338	4.330	4.323	4.284	4.246
6	5.144	5.134	5.123	5.112	5.102	5.047	4.993
7	5.895	5.881	5.866	5.851	5.837	5.762	5.687
8	6.597	6.578	6.558	6.539	6.519	6.420	6.319
9	7.243	7.217	7.191	7.165	7.140	7.010	6.879
10	7.822	7.789	7.756	7.723	7.691	7.525	7.357
11	8.327	8.286	8.245	8.204	8.163	7.958	7.757
12	8.753	8.703	8.653	8.604	8.554	8.307	8.061
13	9.098	9.038	8.980	8.921	8.863	8.574	8.291
14	9.364	9.296	9.228	9.161	9.094	8.767	8.451
15	9.559	9.483	9.407	9.327	9.259		
∞	9.901	9.798	9.708	9.615	9.524	9.091	8.696
N.	.120	.125	.130	.135	.140	.145	.150
1	.893	.889	.885	.881	.877	.870	.870
2	1.766	1.756	1.747	1.738	1.728	1.719	1.710
3	2.613	2.596	2.580	2.563	2.547	2.530	2.514
4	3.429	3.403	3.377	3.355	3.324	3.297	3.271
5	4.207	4.168	4.129	4.089	4.050	4.010	3.970
6	4.938	4.882	4.826	4.770	4.713	4.656	4.600
7	5.611	5.535	5.458	5.380	5.302	5.225	5.147
8	6.218	6.115	6.013	5.910	5.807	5.704	5.602
9	6.747	6.615	6.483	6.351	6.220	6.090	5.962
10	7.193	7.027	6.862	6.699	6.539	6.382	6.228
11	7.550	7.350	7.153	6.959	6.771	6.588	6.411
12	7.823	7.589	7.361	7.141	6.928	6.724	6.527
13	8.018	7.755	7.501	7.259	7.027		
14	8.150						
∞	8.333	8.000	7.692	7.407	7.143	6.897	6.667

Since the various values of A in Table II take account of machine interference, we are now able to compute H from:

$$H = \frac{N(T - t_s + t_a + i_a)}{A} + t_s$$

Thus, by knowing T and H, we can determine machine efficiencies and cycle times. In the next article, it will be shown how to use these quantities in actual time study calculations. ■

## Looms in Use Down 5%

Looms in place at broad woven fabric mills at the end of 1958 totaled 439,257 or 5% less than the 461,531 looms in place at the end of 1957, according to the U. S. Department of Commerce. Of the looms in place at the end of 1958, 421,965 were cotton and manmade fiber looms, and 17,310 woolen and worsted looms. At the end of 1957 there were 443,098 and 18,433 looms, respectively.

Of the total number of looms in place on December 31, 1958, there were 327,071 in cotton mills, 95,814 in man-made fiber and silk mills, and 14,453 in woolen and worsted mills. This represented declines of 7% for cotton mills and woolen and worsted mills, while the number at man-made fiber and silk mills increased 4%.

## Transfer Fiber Research

Fiber research operations of American Cyanamid Co., previously assigned to the firm's Central Research Division, have been transferred to its Fibers Division. The transfer is in line with the company's policy of assigning research and development responsibility to operating divisions. The Fibers Division, established in 1956, markets the company's Creslan acrylic fiber. Dr. N. H. March has been named director of research and development for the Division, and Richard Lindenfelser has been appointed director of fibers research at the Stamford laboratories.

## Approval Seal for Socks

The Du Pont Co. will include the sock industry's Seal of Approval in its fall advertising of men's and childrens' nylon socks. Under a program originated by the National Association of Hosiery Manufacturers, minimum sock construction standards have been supported by a system of testing and approval. Manufacturers whose products meet the minimum standards, as determined by an independent testing laboratory, are qualified to display the Seal on them.

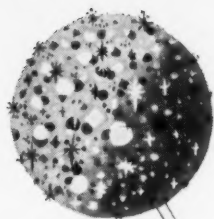
## ASTM Texts on Standards

The American Society for Testing Materials has published two new volumes on standards. The 256-page paper-covered "Compilation of ASTM Standards on Soaps and Other Detergents (D-12)" contains 40 standards, 11 of which are new, revised, or have had their status recently changed. Priced at \$3.50 per copy, this compilation should prove useful to commercial laundries, metal cleaners, and all concerned with the manufacture or use of cleaning materials.

The second paper-covered book, "Compilation of ASTM Standards on Textile Materials (D-13)," in its 880 pages describes the many ASTM methods of tests; tolerance within which textiles must come in order that they shall constitute good delivery on contract, and specification requirements—standards of quality. New standard methods of test on extractable matter in oven dried wool, fiber length of wool and moisture in oven drying are included. The text is priced at \$7.50 per copy. Copies of both may be obtained from ASTM headquarters, 1916 Race St., Philadelphia 3, Pa.

## Japanese Cotton Buying

Japanese raw cotton purchases from the United States were over twice as much as Japanese cotton textile sales to this country, according to 1958 statistics released by the Japan-U.S. Textile Information Service. The 2.4 trade balance ratio in favor of the U.S. in 1958 resulted from Japanese purchases of \$135,761,000 of American raw cotton and Japanese sales of \$56,930,000 of cotton textiles to the U. S. In 1957, Japan imported \$224,530,000 in American raw cotton and exported \$53,790,000 in cotton textiles to the U. S.



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elements of fashion...**

**COLOR**

Women's fashions are concerned primarily with three major elements: line, texture, and color.

Parfé . . . the new yarn creation by Bemberg . . . brings a new dimension to the vital factor of color. Color is spaced intermittently along the entire length of Parfé in two effects: a long span of color with long space intervals, and a short span of color with short space intervals.

With amazing ingenuity, fabric stylists have combined Parfé with other yarns, natural and synthetic, and with itself (used in both warp and filling) for unique and original color effects with exciting fashion possibilities.

Because the colors of Parfé are rendered as fast as solution dyed shades by a special Bemberg process, fabrics of Parfé may be overdyed for spectacular styling achievements.

Fabrics of Parfé are washable, color fast, and shrinkage controlled and are available with certified wash-and-wear performance, if desired.



Parfé is American Bemberg's registered trade mark for cuprammonium rayon yarn.

**AMERICAN BEMBERG • Main Office: 261 Fifth Avenue, New York 16, N. Y. • Plant: Elizabethton, Tennessee**



**NEW FABRIC**—This tweed-like cloth is woven of Beaunit's new special process yarn combining 74% Vycron with 26% Bemberg rayon.

## Vycron

(Continued from Page 33)

basic structure. Its structure is designed to give better dyeing properties along with good fiber processing and wearing characteristics.

### Fiber Properties

	Vycron Staple Fiber
Tensile Strength	5.6 g/d
Break Elongation	35%
Modulus of Elasticity	0.5 g/d/%
Resilience as measured by work recovery	
from 2% extension	93
from 5% extension	44
from 10% extension	33
Toughness	1.75 gm. cm./cm. den.
Moisture Absorption	0.6%
Specific Gravity	1.36

**Heat Resistance:** The heat resistance of Vycron fiber is good. Melting temperature is 455°F.

**Resistance to Chemicals:** Vycron has good resistance to common solvents and cleaning agents. It is not affected by acids or alkalis normally encountered by apparel fabrics.

**Resistance to Weathering:** Good.

**Flammability:** Vycron will burn slowly but melts and drops off when hanging free.

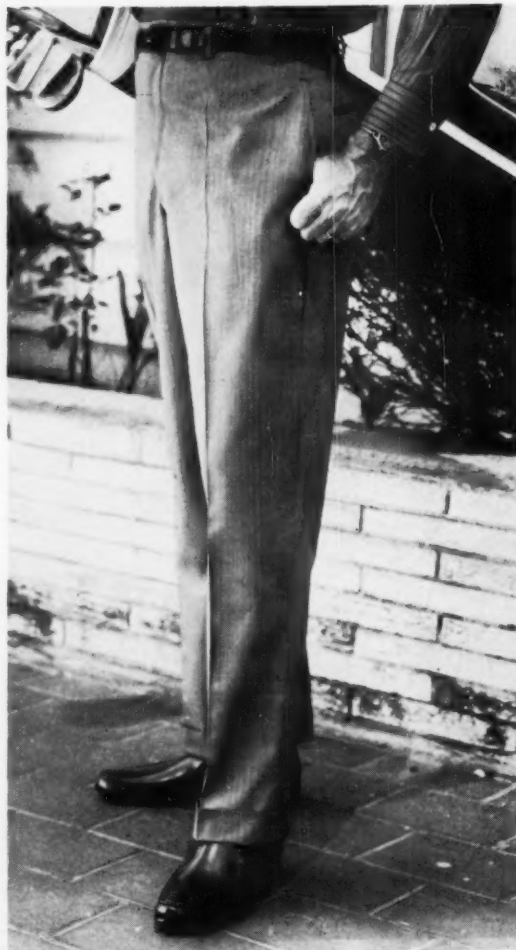
**Mill Processing:** Vycron fiber can be processed excellently on standard spinning systems. The Fiber has extremely good fiber to fiber cohesion and is exceptionally strong. Yarns spun from it are stronger than yarns spun from other polyesters. Even fine counts perform excellently because of the extra strength and evenness.

**Dyeability:** The affinity and dyeing rate of Vycron for dispersible acetate colors and developed azoics is slightly greater than for some of the competitive polyesters. When selected dyes are properly applied, good fastness is achieved. Laboratory tests confirmed by commercial runs evidence excellent colorfastness to

laundering, hot pressing, hot wet pressing, sublimation, perspiration, gas fading, solvent rubbing, light, and crocking wet and dry.

**Dimensional Stability:** To produce a fabric with good dimensional stability, heat setting is necessary.

(Continued on Page 82)



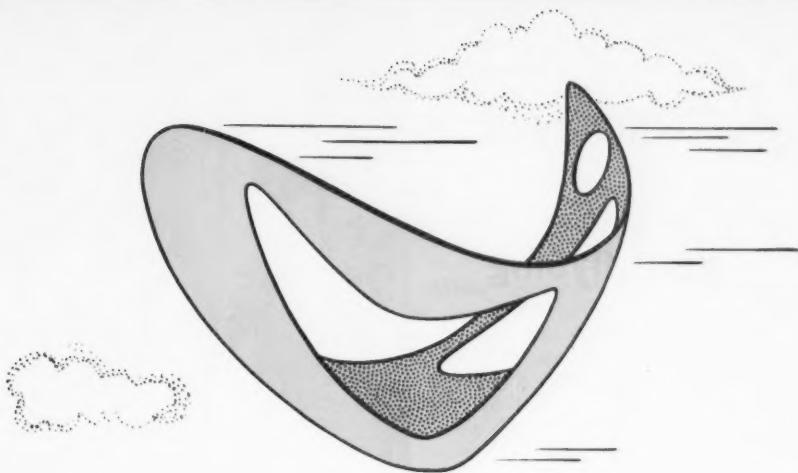
**FOR SUMMER WEAR**—These cool, wrinkle-free slacks are cut from Wamsutta's Excellere, a new blend of 50-50 Vycron and cotton.



# DYEING and FINISHING SECTION



BLEACHING  
PRINTING  
SPECIAL  
PROCESSING



**Butterworth  
adds a  
new dimension**

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121 Cleveland St., Greenville, South Carolina  
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Now there's a new dimension back of Butterworth Machines for the wet end of textile finishing. It's the service of experienced sales-engineering organizations calling regularly on your mill.

Whether you want a spare part in a hurry, a new machine to increase production, or a complete dyeing, bleaching, or finishing range, there's a Butterworth man within easy call. And he is backed up by good engineering service from the home office, and a pricing policy that will give you a Butterworth-engineered installation at competitive cost.

# **BUTTERWORTH**

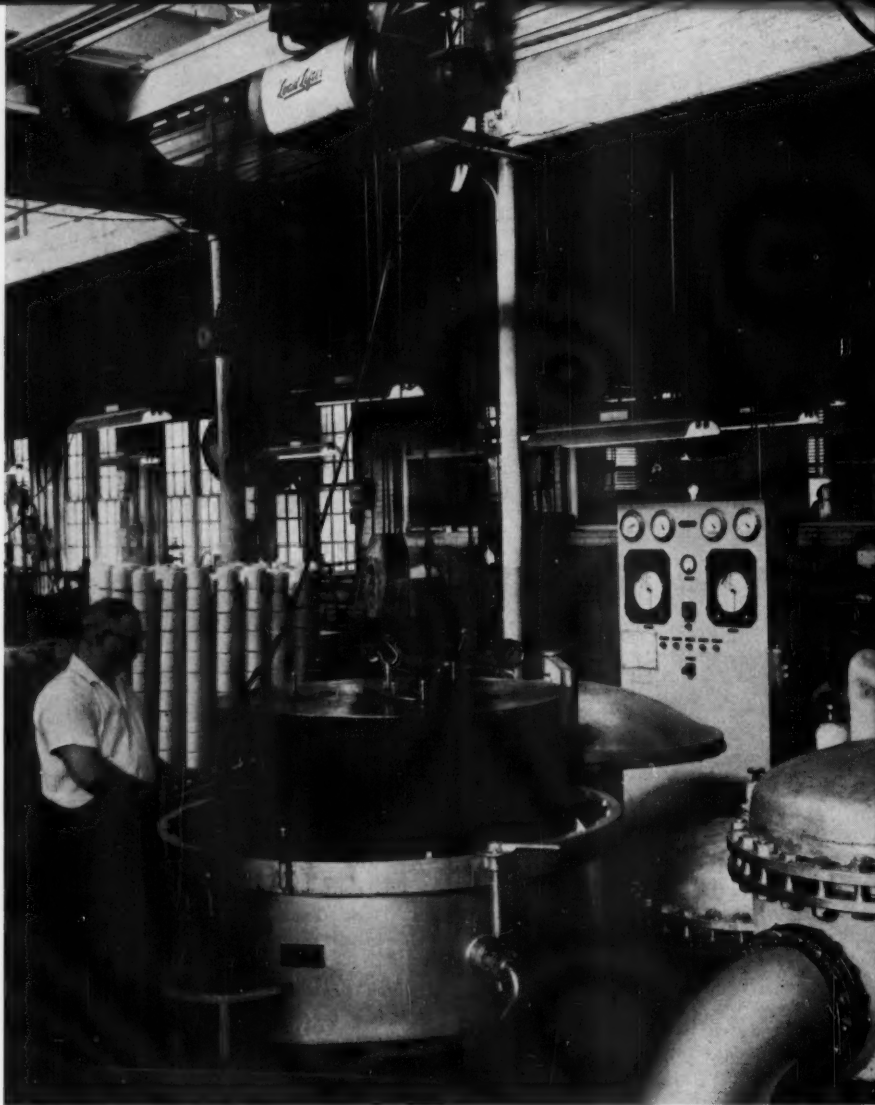


Division of VAN NORMAN Industries, Inc.

H. W. BUTTERWORTH & SONS CO. • Bethayres, Pa. • Since 1820

**MACHINES DO THE WORK—**  
Lowering carrier of dyed yarn  
into high pressure, recirculating  
type dryer at a plant of  
Franklin Process Co.

# Improved yarn dyeing at Franklin Process



**By the Editors**

**S**UCCESSFUL use of fiber-reactive dyes on a commercial basis has been achieved in recent months by Franklin Process Co. using Arnold Hoffman's Procion and Ciba's Cibacron dyes. Franklin's "Bonded Colors" are applied to cotton and rayon to yield brilliant lightfast and washfast shades.

This company's development of its "Bonded Colors" is another step in its record of helpful solutions to problems of package dyeing. Its work in this direction has enabled Franklin to become respected in the current search for methods of applying dyestuffs to the growing list of new and modified types of man-made yarns as well as cotton and other natural fibers.

The company, which recently became a division of Indian Head Mills, was organized in 1910 in Providence, R. I., to make package dyeing machinery to exploit the newly obtained patents on the Franklin spring. Today it is one of the largest package dyers in the world with dyeing plants at Philadelphia, Pa., Chattanooga, Tenn., and Greenville, S. C. Along with these, a 10,000-spindle cotton yarn spinning mill and bleachery is operated at Fingerville, S. C. The Fingerville operation is typical of Franklin's specialization. The processing plant there does bleaching ex-

clusively. Specialization of this type assures shade uniformity and eliminates contamination from colored-yarn fly. And the Fingerville spinning plant, along with supplying some of Franklin's customers with yarn, allows the company to keep pace with developments in the yarn spinning field.

In a recent consolidation move the Providence plant was closed and the machinery distributed among the four plants. At the same time the application laboratory which does research work on new dyes and fibers for all four plants, was moved from Providence to Philadelphia.

A recent inspection of the Philadelphia operation, typical of all plants in the Franklin chain, showed that half a century in the colored-yarn business has equipped Franklin Process to meet the challenges of the new fibers. The volume of manmade fibers that are package-dyed has grown steadily in recent years. Franklin sees this end of the business taking over an ever growing percentage of plant activity.

The company originally specialized in spun yarns only. Thus it was not until the staple fibers and blends began to grow in importance that Franklin was confronted with problems peculiar to manmade

fibers. But it was experience at this level that began paying off in the past few years when the bulked and textured yarns made their appearance. These modified continuous filament yarns which simulate many properties of spun yarns, are now being handled in increasing poundage by Franklin.

### **Dyeing Textured Yarns**

Typical is Franklin's initial good work in package dyeing hi-bulk Orlon and Texturalized yarn. The process is trademarked by Franklin under the name Fluddyed and is applied to most of the company's dyeing of modified continuous filament yarns.

When bulked and lofted filament yarns began to become important a few years ago, Franklin's researchers soon discovered that they could not be package-dyed by the same techniques as used for the earlier modified filament stretch yarns.

They soon learned that the secret in handling the lofted yarns lies in winding the dye package so as not to distort or flatten the yarn. Proper tension is one of the important elements in both initial winding and back-winding. Franklin's success in this work stimulated further research. Now the company is equipped to package-dye the new heavy denier textured nylon carpet yarns.

The needs of its customers and its efforts to meet them have resulted in a wide variety of equipment at Franklin's plants. At Philadelphia, for example, there are 39 package dyeing machines ranging in capacity from 5 lbs. (for sample dyeings) up to 2,000 lbs. of yarn per machine. With machines of 14 different

sizes, Franklin can fit a machine to the poundage of yarn required. The proper ratio of dye liquor to yarn is maintained and the chances of off-shade work are minimized. For those who want long runs of one shade, Franklin can supply it in one dye batch.

Extracting is done centrifugally in the dye house. Then the packages are put on trays on a movable conveyor system which carries them to Proctor & Schwartz hot air dryers. The conveyor system also provides storage for unused trays. At Franklin's Greenville plant there is installed one of the latest type of yarn drying equipment, a Thies high pressure, recirculating type dryer. This new method of drying leaves the yarn clean and in excellent condition for subsequent operations.

### **Lower Costs Sought**

With a weekly capacity of 700,000 pounds of dyed yarn in its four plants, Franklin Process has dyed an estimated 700 million pounds of yarn for more than 36 end uses since that day almost 50 years ago when the company was founded. Looking toward the future, Franklin Process moves forward into an era of more and more scientific technology in package-dyeing. But the company's fundamental objective, stated the other day by W. F. Wolfe, general manager of the Franklin Process Division, remain the same. He said, "Our fundamental business is the application of dyestuff to yarn in a circulating machine. Our goal is to apply the dyestuff perfectly and at the lowest possible cost in material and time."

### **Wash-Wear Shirting Finish**

A new wash-and-wear finish for cellulosic fabrics claimed to remain durable to repeated commercial launderings, and overcome the problem of tensile loss, odor and chlorine retention, has been developed by the Arkansas Co. According to C. M. Braham, president, the finish is based on a new type of cyclic formaldehyde thermosetting resin, and has particular application to the shirtings field. The product, he declared, produces "exceptionally durable crush and shrink resistant effects on cellulosic fabrics." It is highly efficient for finishing broadcloth, he said.

Discussing the technical nature of the new finish, Braham noted that Resipon N D C is a water white liquid of indefinite shelf life. He recommends its use with an acid catalyst in accordance with conventional finishing practices. Braham said further that treated fabrics are resistant against chlorine retention and bleach-scorch damage even when aged and exposed to adverse storage and laundering conditions.

Braham cited mill run tests showing no significant loss in breaking strength after 10 and 20 home launderings and 10 commercial launderings. The bleach and scorch test used were made in accordance with American Association of Textile Chemists & Colorist procedures (Tentative Test Method 69-1958).

Resipon N D C contains 45 per cent active ingredients and has a pH of 6.5 to 7.0 (1% solution) and is soluble in water in all proportions. It is compatible with most textile resins and other additives commonly used in resin finishes. Tests results were given based on the following application details: Broadcloth, 40 inches, 136 x 68, finished with 15 per cent Resipon N D C and 3 per cent catalyst dried then cured for three minutes at 310 degrees F. followed by a mild wash with 1/4 per cent soda ash and 1/10 per cent sodium perborate. *For further information, write the editors.*

### **Glass Cloth Dyeing**

"Silrama," a new process for dyeing glass cloth, has been introduced by Union Carbide's Silicones Division. The new process is said to permit the use of 14 different classes of dyes, and makes possible, in presently used "Coronizing" lines, the production of fabrics with a wide variety of colors. The process, which utilizes the tenacious affinity of the new organo-functional silicones for glass and the chemically reactive nature of the pendant groups of these new chemical molecules, is especially suitable for dyeing with pigments and vat colors.

Gagliardi Research Corp., Union Carbide's consultant in this development, reports successful applications of such water-soluble dyes as vats, vat esters, vat acids, acid wools, sulfurs, directs, naphthols, direct and developed dyes, premetallized acids and neutrals, and the new reactive dyes. Similar results also have been obtained with water-dispersible pigments of both the organic and inorganic types. Heretofore, glass fabric dyeing has been limited to the use of selected pigments. The Silrama technique, now available for licensing, was initially tested on production equipment of J. P. Stevens & Co., Inc., at its Slater, S. C., plant. *For further information write the editors.*

### **Olney Medal to Dr. Valko**

Dr. Emery I. Valko has been named recipient for the 1959 Olney Medal of the American Association of Textile Chemists and Colorists. The AATCC awards the medal annually for outstanding achievement in the field of textile chemistry. Dr. Valko, who is a professor, Division of Chemistry at Lowell Technological Institute since 1958, has had varied commercial research experience and is a member of several professional societies, including the American Association of Textile Technology. He was chairman of the Gordon Research Conference on Textiles in 1958.



**SAFETY SUIT**—Made of polyurethane-proofed nylon, this waterproof suit is resistant to oils and greases, long-wearing yet light in weight. The safety harness of nylon webbing functions independently of the suit to guard the worker in high places against the danger of falling.

## For the DYER and FINISHER

### Antistatic Finishes

Seventy specific antistatic finishes for fabrics made of Acrilan have been endorsed by Chemstrand Corp., producer of Acrilan acrylic fiber. Although Acrilan staple is shipped with a finish which gives adequate static protection during textile processing operations, the company stated, the original finish is, to some extent, removed during fabric scouring and dyeing, thus making the application of an additional antistatic finish often desirable. For further information write the editors.

### Bacteria-Proof Fabrics

Ions Exchange & Chemical Corp. is marketing Eversan, a new process that fixes an organic zinc ingredient in the fiber of a fabric, permanently making the molecules of the fiber antibacterial. The chemical treatment is said to

give fabrics protection against bacteria for the life of the garment. Eversan is handled by Yardney Chemix Corp. in the United States. For further information write the editors.

### Mothproof Sweater Line

All 1959 lines of quality wool and cashmere-fur blend sweaters manufactured by Premier Knitting Co., Inc. will be permanently mothproofed against damage from wool-eating insects, with Geigy's Mitin durable mothproofing. Applied in the dyeing process, Mitin becomes chemically bonded to the fibers for permanent protection, Geigy said. For further information write the editors.

### Retentive Resin Finish

Resloom E-63, a new non-chlorine retentive resin finish for wash and wear cottons that will resist discoloration from scorching and washing is available in commercial quantities from Monsanto Chemical Co. The product is said to also provide cotton fabrics with improved dimensional stability and outstanding wrinkle recovery. For further information write the editors.

### Miralloid Acetate Gum

A. E. Staley Mfg. Co. has issued Technical Data Sheets No. 114 and No. 115. Increased weaving efficiency is reported in tests with Miralloid acetate gum, a thick-boiling, non-congealing corn starch derivative developed specifically for warp sizing of fine combed cotton, worsted, and worsted-synthetic blend yarns. Properties of the company's Mira-Film acetate gums also are detailed. For free copies write the editors.

### Acrilan Washing Tests

Chemstrand Corp. termed as highly successful the results of three series of laundering tests which were geared to determine the washability and durability of blouses of jersey of 100% Acrilan acrylic fiber. The tests were conducted separately and independently by the American Institute of Laundering, Sears Roebuck Laboratories and the Chemstrand research laboratories. For further information write the editors.

### New Chromspun Color

Eastman has added Pebble Beige 324 to its Chromspun acetate color line. The warm, rosy shade should find ready application in apparel lines, Eastman reports. For further information write the editors.

### Atco Process Oil

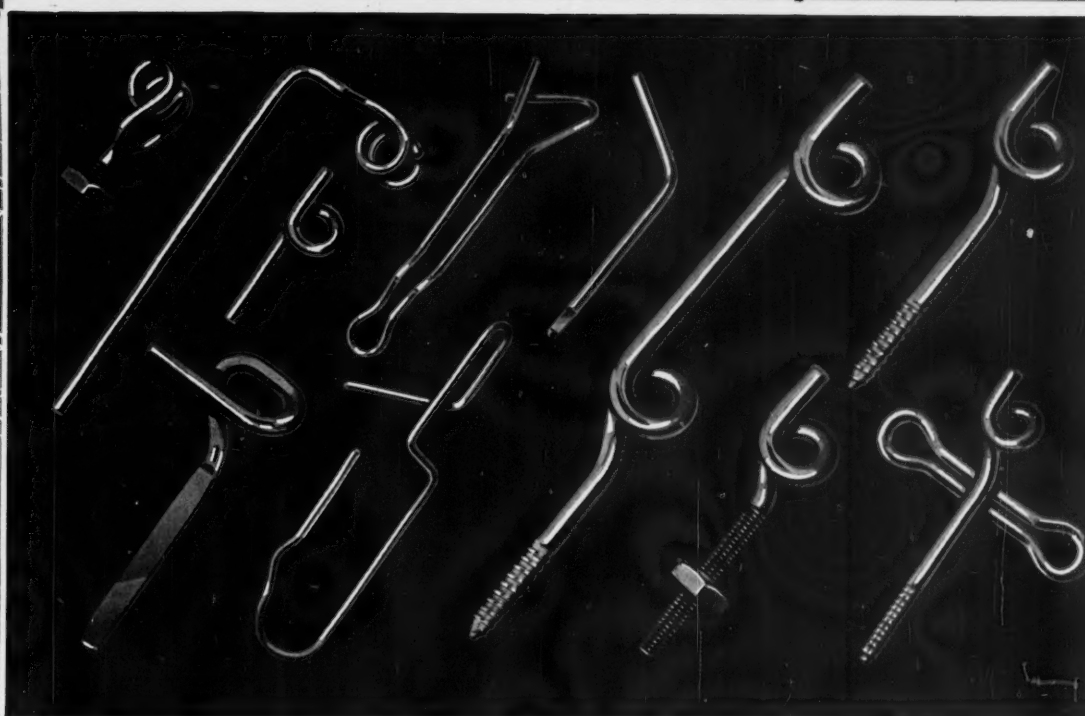
Metro-Atlantic, Inc., has developed Atco Process Oil, which usually is applied by roller device attached directly to the spinning frame. It can be applied to textured nylon and other synthetic yarns to prevent broken ends and fly in the spinning operation. The oil may be dried right in the yarn, as it does not impart any color to the yarn or develop objectionable odors during storage. It can be easily removed by simple rinsing in warm water. For further information write the editors.

### Laurel Flame Retardants

Three flame retardant chemicals have been developed by Laurel Soap Manufacturing Co., for use on drapery, upholstery, and certain garment fabrics. All three, one organic and two inorganic, are manufactured as water-clear liquid products readily soluble in water. Laurel Pyrosan A (organic), is said to eliminate after-flaming at once and after-glowing within one or two seconds after removal of the fire source. Laurel Pyrosan B (inorganic) will not crystallize nor settle in storage, while Laurel Flame Retardant 527C (inorganic), even when used at low percentage to treat lightly napped goods, enables them to pass Federal tests. For further information and samples write the editors.



# MACHINERY and EQUIPMENT SECTION



## NOT JUST CHROMIUM PLATED, BUT *Mitchell- Bissell* CHROMIUM PLATED

**THERE'S A DIFFERENCE!** The chromium plating on Mitchell-Bissell Thread Guides is denser and longer wearing than on other wire guides on the market. A thick application of hard chromium, polished to a mirror finish, makes these the highest grade wire guides obtainable. Can be made in any shape or any size desired.

*Write for new wire guide catalog*

**MITCHELL-BISSELL CO. • TRENTON, NEW JERSEY**

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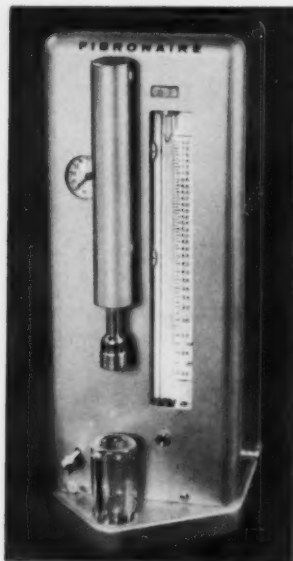


# NEW

# MACHINERY EQUIPMENT

## Cotton Blending, Cleaning

Cotton blending and cleaning systems, for obtaining maximum efficiency and economy in the blending room, are being offered by Fiber Controls Corp. The blending feeder is said to give uniform feeding and uniform production. The company's junior pre-opening cleaner permits higher production of hopper feeders while maintaining a good standard of quality. The systems also include a super cleaner, a condenser and a reversing apron picker feeder. For further information write the editors.



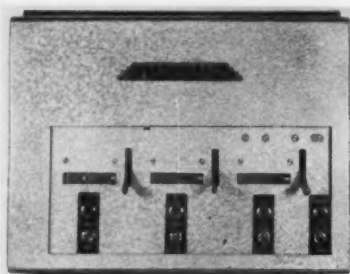
Fibronaire Cotton Tester

## Cotton Fineness Testing

Fibronaire, a completely integrated instrument to test the fineness of bulk staple cotton fibers, has been announced by Motion Control, Inc. Except for manual loading of the weighed sub-sample, the instrument is fully automatic. With the aid of a conveyor feed system specially designed by the manufacturer, operating rates as high as 430 samples per hour have been achieved by a single Fibronaire and one weighing scale. For further information write the editors.

## Calender Measuring Unit

A device developed originally for the jute industry, to measure the cloth on calenders, is being offered by Trumeter Co. Ltd. The device is supplied in two or more

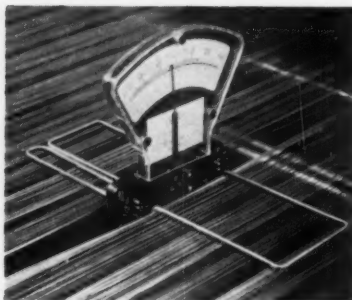


Calender Measuring Unit

units, dependent on the number of pieces which can be passed, side by side, through the calender. Movable contacts, placed over the top bowl of the calender, each control a separate width of cloth. For further information write the editors.

## New Testing Instruments

Six units of textile testing equipment, developed by the British Rayon Research Association, and manufactured under license by Louis Newmark Ltd., of Surrey, England, are now available in the U.S. through an arrangement made with Stellamcor Inc. Trademarked "Manra," four of the units are said to have no U.S. counterparts. The six units initially being made available are: an electronic yarn filament counter; an instrument which facilitates measuring and recording yarn tension continuously; a strainometer for measuring whether yarn has been overstrained during winding process; a vibroscope for determining yarn denier; a warp tension "balance" for meas-



Warp Tension Balance

uring difference in tension between two yarns, and a crimp tester. While the equipment was developed primarily for filament yarn producers, it has much wider use throughout the textile industry. For further information write the editors.



Model K Pilling Tester

## Pilling Tester

Fabric Development has available its new model K Appearance-Retention Tester. It is said to give larger, softer pills on knit goods and softer woolen and synthetic textiles and more closely simulates actual wear results obtained with these materials. The model operates at contact pressures as low as 5/1000 pounds per square inch and uses a special 3KS wear disc. Test results, the manufacturer reports, are obtained in just one half to two minutes with knit goods and two to twenty minutes with soft woven fabrics. For further information write the editors.

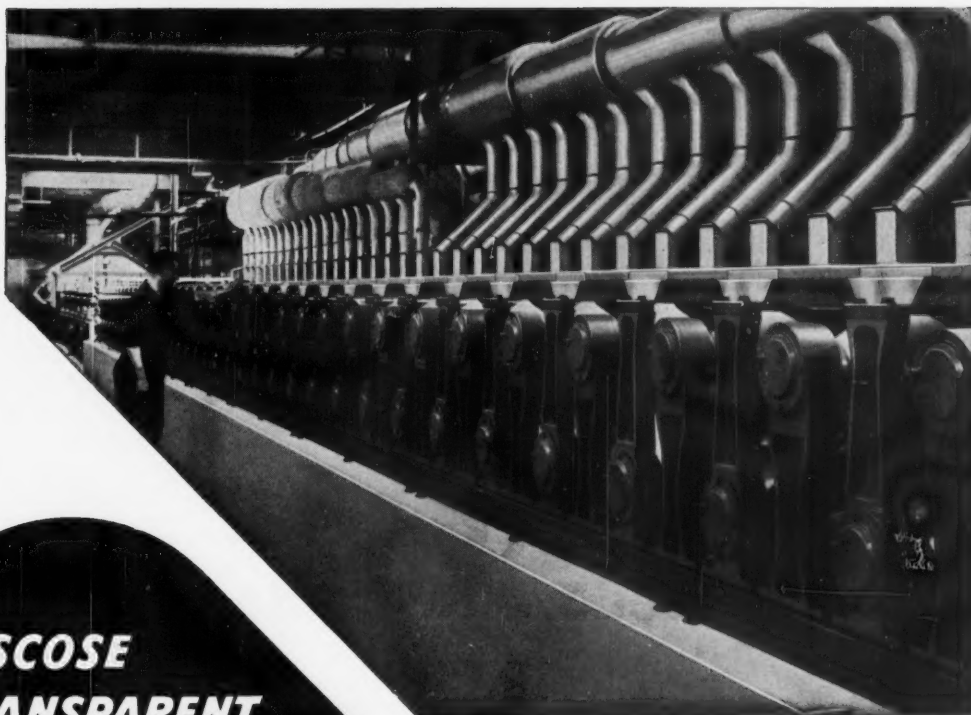
## Nylon Tufting Tubing

Tufting grade nylon tubing, 5/16-inch outside diameter, is now being produced by M & Q Plastic Products. Only 1.35 pounds per 100 feet, the tubing is said to permit ease of handling and facilitates the construction of lighter weight creels now in general use. It is easily cut, flared and fitted, thus resulting in lower installation costs. Its translucency also permits operators to see the yarn while its mirror finish eliminates snagging. For Bulletin No. 21 describing the new product write the editors.

## Improved Loom Reeds

Patents have been recently granted Schmidt Manufacturing Co. on new types of loom reeds. Because only low (130°F) temperatures are necessary during manufacture of the reeds, the dent wires are not expanded, contracted, or distorted, the company points out. As a result, it is now possible to produce reeds with perfectly straight and accurately spaced dent wires.

The reeds come in two types. The "Duraflex" reed is described as a more or less standard type, suitable for weaving a large range of fabrics while the "Rubberiset" reed is very flexible and is recommended in cases where warp yarn with knots, bunches or other characteristics is being used. The "Rubberiset" reed is said to allow the warp yarn to find its own spacing in the finished cloth.



Photograph by courtesy of Transparent Paper Limited, Bury

**VISCOSE  
TRANSPARENT**

*film . . .*

*at nearly 7 feet a second*

**ANOTHER EXPERT  
JOINS DOBSON & BARLOW**

We announce with great pleasure the appointment to our technical staff of Mr. E. J. Kirkman specialist with 20 years global experience of manufacturing techniques in viscose film production and in all the various adaptations of film coating. His unmatched knowledge will add strength and lustre to our consultative services on modern equipment and operational efficiency.

**INCREASED PRODUCTION**

Designed and manufactured in close collaboration with the industry, Dobson & Barlow's new Viscose Transparent Film Machine, shown here in operation, produces 55" wide film in 1,000 lb. finished reels. The machine is designed to run at speeds up to 400 feet per minute. A number of these machines have been supplied to the Bridge Hall Mill of Transparent Paper Limited, Bury, for their re-equipment programme. These high production figures are made possible by 8-pass treatment tanks, greatly accelerated cylinder drying and improved reel tensioning.

**IMPROVED QUALITY WITHOUT WASTE**

Specially prepared roller surfaces, a new drying system and the careful attention given to the finish of all contact parts ensures exceptionally smooth film of regular thickness, and virtually no waste.

**NEW PROCESSING ECONOMIES**

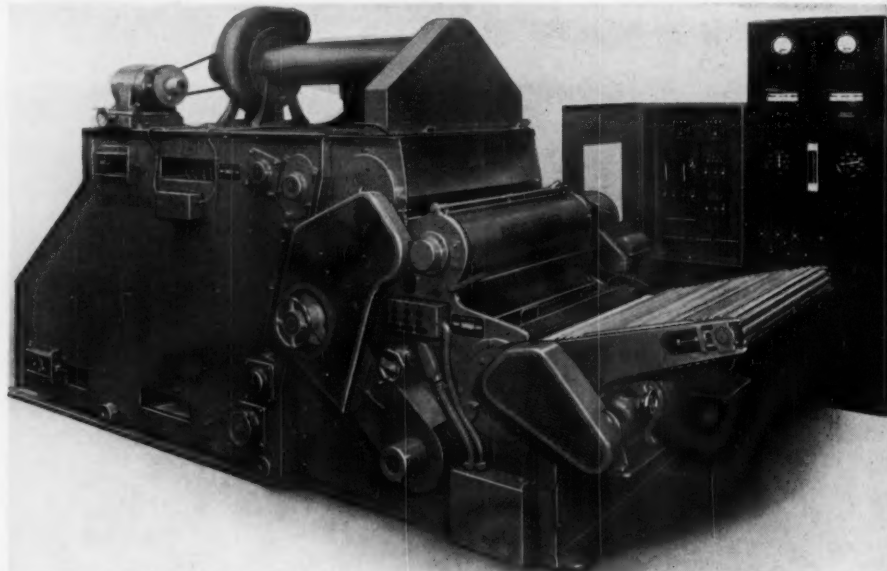
An oil-immersed gear box drive to each treatment tank, improved arrangement of rollers, protection against corrosion, and general machine accessibility make definite economies in maintenance costs.

**DOBSON & BARLOW MACHINERY SALES LIMITED**

**BRADLEY FOLD, BOLTON, ENGLAND**

**WE INSTALL A COMPLETE PLANT OR SUPPLY AN INDIVIDUAL MACHINE.**

FIGURE 1—Instruments with panel shown with Model 40-B Rando-Feeder.



## Instruments

for

# Rando Feeders & Rando Webbers

By Howard H. Langdon

VICE-PRESIDENT, CURLATOR CORPORATION

**T**HE CURLATOR Corp. has made available an assembly of instruments along with an antistatic fluid feeding system that may be applied to their Models 40-B, 60-B, and 84-B Rando-Feeder and Rando-Webber. This system has been tested in Curlator's plant and purchaser experience has been gained.

This auxiliary equipment should be particularly useful to fiber manufacturers and suppliers, product development people, and to potential and established producers of nonwovens where economies can be gained by establishing manufacturing and quality control. This is particularly true where limited product runs are alternated to minimize inventory accumulations.

The instruments that are applied to the Rando-Feeder and Rando-Webber are mounted on a floor stand type of panel as shown in Figure 1. The antistatic fluid feed system as applied to a Model 40-B Rando-Feeder is shown in Figure 2.

Instruments with their respective connections to the machines are as follows:

1. A mechanical type of pressure gage for indicating the suction pressure in inches of water across the Rando-Feeder air bridge and condenser combination. This gage functions in respect to feed mat formation prior to entering the Rando-Webber.
2. A 3-way mechanical type of gage to indicate suction, positive pressure, and differential pressure in inches of water. The purpose is to indicate the zone pressures ahead of the lickerin and subsequent to the condenser and, particularly, the differential pressure across the fiber carrying and forming zone of the Rando-Webber. In this connection, a variable speed fan drive is provided so as to permit adjustments of the pressure drop across this important product web forming zone.

3. An electrical type tachometer for indicating the lickerin speed in RPM including a variable speed drive between the motor and lickerin.

4. An electrical type tachometer with appropriate scale in ft./minute or yards/hr. is provided to indicate the flow rate of the product web as it is removed from the Rando-Webber conveyor. There is also a variable speed drive in this delivery system.

5. An internal humidifier system is furnished as standard equipment on all Rando-Webbers in connection with their recirculating air system. Instrumentation is provided for indicating the dry bulb temperature, dew point temperature, and the relative humidity of this recirculating air stream. There is also furnished a flow rate meter for measuring the quantity of water fed to the humidifier.

6. An anti-static fluid feed and atomizing system is shown in Figure 2. for preconditioning the fiber while it is in the Rando-Feeder hopper. The system illustrated consists essentially of a stainless steel supply tank with fluid and atomizing control elements along with a flow rate meter and multiple spray heads located over the hopper opening as shown.

Fundamental reasons for equipping Rando-Web machines with the instruments and devices listed above are:

1. To gain knowledge and control data of certain machine and operating variables which from experience affect fiber processing and the quality of the product web.
2. To provide means whereby product development can be carried on in a rational manner for the reason that the important variables may be controlled as from run to run, fiber to fiber, day to day, or month to month.
3. While the instruments shown on the panel were



provided more for product development procedures, the same variables that are shown as indicating instruments might well be replaced by recording gages and instruments thus providing daily records. This is particularly important in the mill when one considers the versatility of these machines and their ability to process a wide variety of fibers, weights, and products simply by control manipulation of the machines. For instance, a user may wish to rotate his production from product to product at intervals thus avoiding long runs and inventory accumulation. With instruments and records, it follows that alternate production runs can be set up quickly to the previously accumulated operating data.

4. In the conventional woven textile industry there is advisory service between the fiber manufacturers and users, between laboratories and mills. Detail information is often transferred in terms of selecting the required processing machine and sequence, machine variables, and machine settings.

Likewise, in the relatively new nonwoven industry and, particularly, where conventional machinery is used in a new way or where new equipment has been developed, the same kind of service is desirable. Instrumentation at both the supplier or mill laboratory and the mill production line can provide greater accuracy and efficiency in correlating product development and production procedures.

It may be helpful to explain some of the reasons why instrumentation as outlined above was selected. In the web forming machine where the objective is uniform random lay of the individual fibers, it appears necessary to transfer the fibers in a transfer medium where the individual fibers have freedom to move and to form on the condensing cylinder in random fashion. This implies an air stream in motion; and as a consequence, it is necessary to measure and control the transfer medium. This is done through the use of suction, pressure, and differential pressure gages along with temperature and humidity control. In order to vary the fiber loading and velocity of the transfer medium, variable speed drives to fans are required; and one can expect that when the various pressures, temperatures, humidities, web, weight, and product rate are in accord with previous runs that the transfer medium characteristics are essentially duplicated. It is not enough to set the fan speed at equivalent RPM in successive runs as a fan is subject to interrelated variables of wide range in its operating characteristics.

The Curlator Corp. early in its experience designed a special high speed lickering and a nose bar. The Rando-Webber lickering normally operate at 2200 RPM on the Model 40-B machine. Some users find that with certain fibers and products that even higher speeds are desirable. A variable lickering drive with indicating or recording tachometer provides for exploration of product, accumulation of processing data, and subsequent control procedures for optimum product conditions and processing economy.

Of equal importance is a flow rate tachometer measuring the output in feet per minute or yards per hour which along with web weight establishes the product flow rate in pounds per hour.

Some textile fibers when processed in machines are more susceptible to the generation of static electrical charges than others. This is, we believe, the common experience of all laboratory and mill people working with a variety of fibers. There has been a great deal of investigation and literature published both theoretical and practical on this subject.

It has been Curlator's experience that most static problems over a wide range of fibers can be overcome by maintaining the recirculating air stream in the Rando-Webber between certain limits of temperature and relative humidity. In addition, room temperature and relative humidity normal to mill experience is also required.

Often a preconditioning of the fibers in storage eliminates or materially reduces subsequent processing problems in respect to static electricity. There are, however, fibers on the market which do not fully respond to the conditions mentioned. In order to process these fibers, anti-static agents are used in the pretreatment of the fibers. An anti-static feed and atomizing spray system has been developed and is available for use in product development and, in addition, where it may be required in mill operations. *For further information write the editors.*

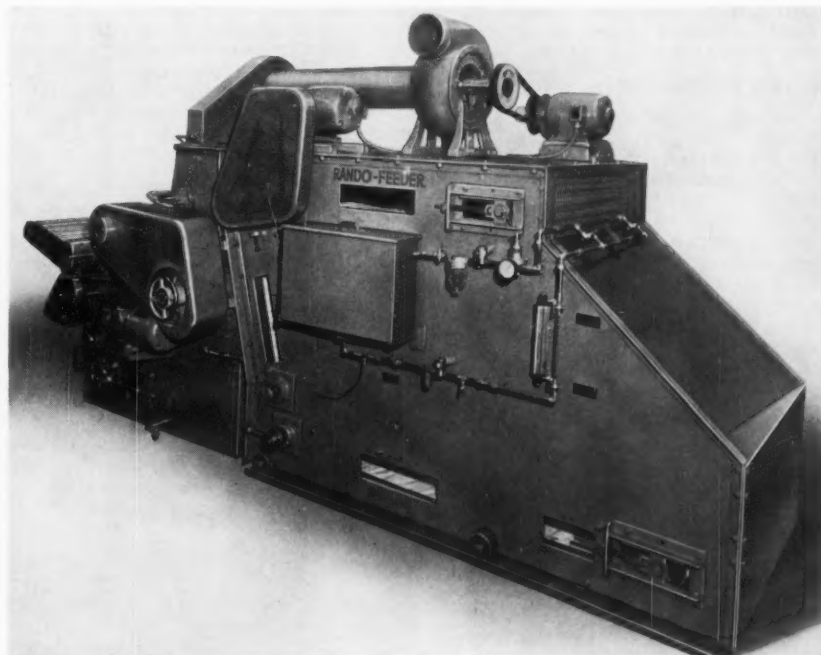


FIGURE 2—Anti-static fluid feed and spray system applied to a model 40-B Rando-Feeder.

## New Machinery



New Simco Electrostatic Locator

### Electrostatic Locator

Simco Co. has developed a new electrostatic locator, Type E, which is an improved version of the locator formerly manufactured by Specialties, Inc. In addition to selling the new meters, Simco has taken over the servicing of the earlier models sold by Specialties. The improved model detects electrostatic charges and electrostatic induction; presence of such charges in industrial processes constitutes serious fire and explosion hazards. Remedial steps can be taken readily when the location and relative intensity of the charges are known. *For further information write the editors.*

### Laboratory Size Ovens

Andrews & Goodrich, division of Midland-Ross Corp., has issued a descriptive bulletin covering two recently developed laboratory size units—continuous resin curing oven and patch drying oven. Either unit can be modified in design to meet individual requirements. *For free copies write the editors.*

### Rotary Roving Cutter

Turner Machine Co., Inc., has issued new literature describing its Turner rotary, the standard, and the special roving cutters. The company reports that its rotary roving cutter using carbide blades was developed as a means of cutting not only the hard-to-cut types of glass rovings, but to also cut with a shear action the different types of synthetic strand or roving, such as nylon, rayon and acetate. In order that the cutter be as automatic as possible all controls on the air supply and strand feed drive are operated by solenoids, making it operable either manually or automatically from a single station. The rotary cutter is used on all Turner preform machines. Turner also produces a rubber roll type cutter suitable for cutting fiberglass roving only. *For further information write the editors.*

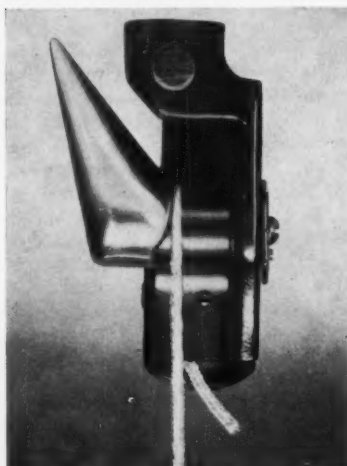
Turner Rotary Roving Cutter

### Screenless Condenser

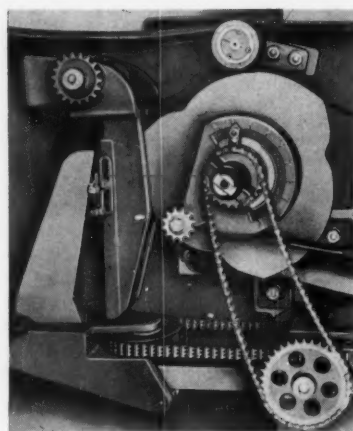
Model FC-83 Screenless Condenser, for heavy duty and high production, is now available from Fiber Controls Corp. The machine will handle up to 2,000 pounds of fiber per hour through ducts approximately 200 feet in distance, according to the manufacturer. It has two doffer blades and two separator plates. The condenser is said to discharge fiber without tumbling, rolling or pilling, with the cleaning quality greatly improved by the beating action of the doffers. *For further information write the editors.*

### Centering Yarn Guide

Scott Testers, Inc., has announced the addition of a quick-insertion automatic centering yarn guide to its heavy yarn and cord



clamp. The new horn guide is said to permit the operator to speedily locate the yarn specimen at the exact center line of the pulling force. The clamps are made in two sizes, for 75 and 400-pound pulls, and the locking cam is adjustable for various diameters of cords or yarns. *For further information write the editors.*



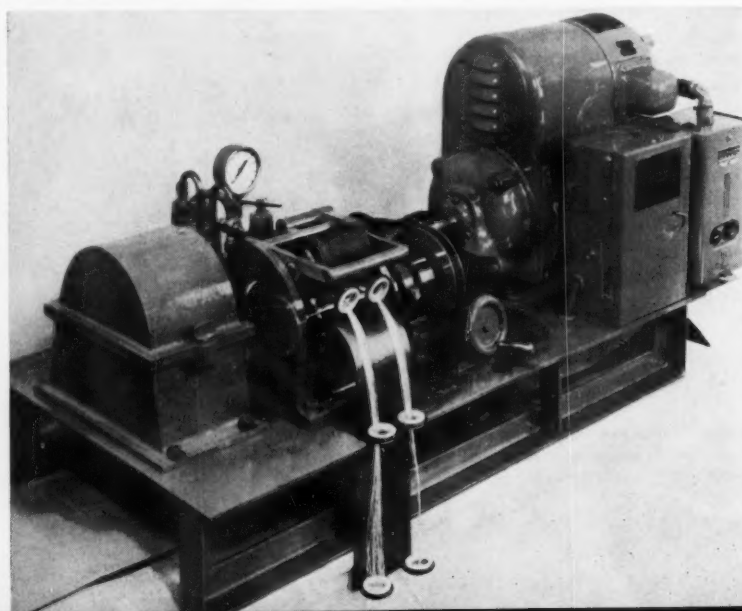
New Whitin Spinning Cam

### New Spinning Cam

A new spinning cam for filling wind providing spooling off at 1230 y.p.m. from large packages is available from Whitin Machine Works. Use of the cam is said to permit for the first time the advantages of filling wind in spinning and at the same time high speed spooling speeds. In addition to improved winding or spooling efficiency, the better winding secured will effect a decrease in ends down. While the cam was developed for Whitin's new Piedmont spinning frame, it can be used on all conventional spinning frames after slight modification. *For further information write the editors.*

### Veeder-Root Counters

Veeder-Root Inc., has published a new, condensed catalog describing its standard mechanical and magnetic counters, and also its new Vary-Tally multiple-unit reset counter. Also included are the new high speed electronic counters made by the company's Electronic Controls Division. *For free copies write the editors.*



# Harold Conant

(Continued from Page 32)

Among the policies Pitcher insisted upon was the establishment of one price for all customers—a practice which may seem commonplace now, but was long in coming to the intensely competitive elastic fabrics industry which for many, many years had been marked by chaotic pricing policies, and a suicidal disregard of real costs in figuring prices.

As the years passed, Harold Conant, working under Pitcher, learned, along with his manufacturing skill and knowledge, how to read a balance sheet and a great deal more in addition about the financial side of running a big multi-plant corporation. In 1954, following Pitcher's death at the age of 83, Conant became president.

Today United has two plants for manufacturing a wide variety of elastic fabrics in Virginia in addition to its New England plants. It has a big, modern yarn mill in Alabama, and it is building a new elastic fabric plant in Canada. All these operations are under the constant loving scrutiny of Harold Conant in a very literal sense. He makes the rounds of the company's plants every six weeks or so and sees for him-

self how things are going. Although he has reached the age at which many business executives have already retired, retirement is far from his mind. "I don't intend to retire," he says. "I'll just fade away gradually into the background letting the younger men take over."

There are such men of course. The company is proud of its active executive training program, aimed at giving its younger divisional management men training in the overall company outlook and overall company problems against the day when they will be given heavier responsibilities. And then on the company management level, already working closely with Conant there are men such as Clark Lilley, manufacturing vice president and Winfield Kelsey, general manager of the United's rubber thread plant; and Sidney Tingen and Dwight Epperson who supervise the operation of the Alabama yarn spinning plant.

From Harold Conant and other older men in United's top management such as treasurer Percy McIntosh and Raymond Waite, vice president for sales, the younger men can learn much about how to manage profitably a big elastic fabrics manufacturing company. More importantly, they can see in these older men prime examples of the great virtues of character, balanced judgment and a lifelong devotion to duty.

## World Manmade Fiber Output

World production of all manmade fibers in 1958 totaled 6,051,000,000 pounds, a decline of 6½% from 1957's 6,484,000,000 pounds, according to the June issue of the *Textile Organon*, the statistical bulletin of the Textile Economics Bureau. The 1958 total included 4,994,000,000 pounds of rayon-acetate (down 8½% from 1957), 933,000,000 pounds of non-cellulosic fibers (up 2½%), and 124,000,000 pounds of textile glass fiber (unchanged from 1957).

Total world rayon and acetate capacity, including filament yarn, monofilaments, staple and tow, is currently around 7,294,000,000 pounds and is expected to increase by 5¼% to 7,680,000,000 pounds by late 1960. World capacity to turn out non-cellulosic manmade fibers is slated to rise to 1,784,000,000 pounds by late 1960. World capacity of textile glass fiber is expected to rise from 164,000,000 pounds early in 1959 to 190,000,000 pounds by the end of 1960.

According to the *Organon*, the decline in rayon and acetate world production in 1958 by major geographic areas was due mainly to lower output in North America and Australasia; total European output decreased only slightly, while there was a small gain in South American output.

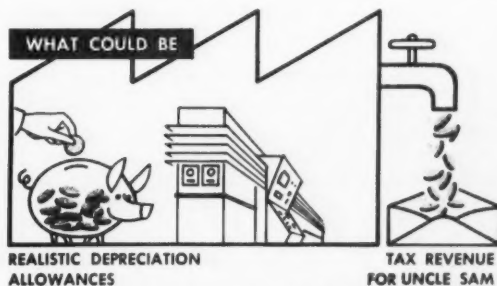
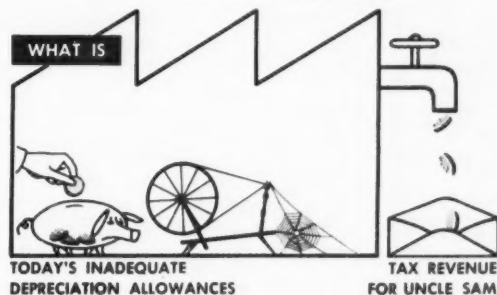
U. S. capacity for producing high tenacity viscose yarn is expected to rise to 6,833,000 pounds per week at 1267 average denier by November of this year. At that time, the producing capacity of the Super 2 or higher tenacity yarns of 1100 and 1650 denier is slated to be 6,202,000 pounds per week, the balance being Super 1 or lower tenacity yarns of all deniers.

## Improved Vinyl Rainwear

Almar Manufacturing Co. is reported producing for fall a line of rainwear which includes several new vinyl fabrics said to "breathe." Variations can be achieved, a company spokesman said, to produce the appearance of woven materials such as cotton poplin or silk jersey. The new coats will be marketed at \$4.95-\$7.95, in men's and women's styles.

## MEN AND MACHINES

"One third of all our industrial facilities are as obsolete as the spinning wheel"



EVERY NEW MACHINE HELPS UNCLE SAM. The increase in employment, the increase in a manufacturer's volume, the increase in gross national product stimulate a flow of income and taxes to help balance the national budget, strengthen our defenses. All this is easily within our reach if more realistic depreciation allowances to industry enable it to buy the new and improved tools of production.



## For the **BEST** in Nylon Wash and Wear



Kenyon "Nyl-de-Luxe" has conclusively demonstrated its thoroughly dependable wash and wear properties: washability guaranteed, stabilization to approximately 1%, little or no ironing . . . and with level, non-streaky dyeing an especially outstanding advantage.

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## NEW FABRICS

### No-Iron Bedsheets

Indian Head Mills, Inc., has introduced no-iron bedsheets and pillow cases in solid colors. The new items, bearing the Pequot Easy-Care label, come in yellow, blue, green and pink. All colors are vat dyed. The fitted sheets, available in twin and double bed sizes, are Sanforized. For further information write the editors.

### Royalene Fibers

The Footwear and General Products Division of United States Rubber Co. is now producing Royalene, a line of synthetic textile fibers. The polyethylene and polypropylene fibers are said to have properties applicable for a wide variety of end uses, ranging from nautical ropes to coaxial cable braid. They are offered in round, flat, oval or ribbon shapes; in sizes ranging from 6 mils to 35 mils, and in six colors. For further information write the editors.

### Foam-Backed Knits

Curon Division, Curtiss-Wright Corp. is producing bulky knit cottons and wools backed with Curon foam. Through a new process, Curon-knits are "stabilized" by laminating the two materials, and can be cut and sewn just as woven cloth. The new fabric was developed to retain suppleness and drape of knits while eliminating sag and shapelessness. It is also claimed that the new knits fused to Curon provide lightweight insulation for jackets, coats and rainwear, eliminating the need for interlining. For further information write the editors.

### Acrilan Upholstery Fabric

Chemstrand Corp. has announced commercial application of its Acrilan acrylic fiber in upholstery fabrics designed and created by Holyoke Fabrics, Inc. Chemstrand also has instituted a quality construction standards program setting forth the minimum specifications required for these fabrics. The face yarns, under the program, must be of 100% Acrilan, whether they be warp or filling yarns. For other than face yarns, other fibers may be blended with Acrilan. However, the total fabric must not be less than 60% Acrilan by weight. For further information write the editors.

### Translucent Awnings

Weblon, Inc., is producing translucent awnings of vinyl-coated Dacron polyester fiber. Color is pigmented as an integral part of the awning's Koroseal vinyl coating, manufactured by The B. F. Goodrich Co. The Weblon awnings are designed to provide long use and are resistant to rot and mildew in storage and use. They also have the advantages of lightweight, high tear strength and little stretch or shrinkage under continued exposure to sun and rain. For further information write the editors.

### Wool-Dynel Blends

Woolmark Corp. has introduced for the fall season women's and children's wear of wash-and-wear fabrics which contain a high percentage of wool. The new fabrics, called Dynameau, are said to provide high strength, shrink resistance and excellent retention of press. They are made from a blend of 70% wool and 30% Dynel, Union Carbide Corp.'s textile fiber. Special processing in manufacture, by subjecting the fabrics to a newly developed heat-setting technique, makes them machine washable. Woolmark reports they are the first wash-and-wear blend containing over 60% wool. For further information write the editors.





## Textile outlook bright, TDI head says

**S**ALES of finished manmade fiber fabrics are currently good and can be expected to get better during the balance of this year and continuing over into 1960, according to Nat Leavy, president of the Textile Distributors Institute. In a recent report to TDI members, Leavy, who heads the firm of Goldstein & Leavy, Inc., pointed out that the market for finished manmade fiber fabrics showed steady improvement during the first six months of 1959. Current indications, he said, suggest that this trend may be somewhat accelerated during the latter half of the year and continue into 1960. This upward movement, according to Leavy, is being supported by strength in the gray goods market and growing public confidence in the nation's economy.

The "plus" factors which indicate continued market strength for distributors and converters of manmade fiber fabrics are, Leavy said:

1. Our inventories generally are of minimum to manageable proportions.

2. Our forward-commitment position is in line with sales which leaves us in a reasonable position for turning quickly as style changes become apparent.

3. Our customers' inventories are low.

4. Stores have depleted their inventories below minimum workable proportions in relation to sales of garments to customers.

5. The prices of the raw materials going into our fabrics are stable and no important changes are expected in the foreseeable future. Some prices of the older fibers may indeed rise modestly, which increases general confidence in the price structure.

6. The probable minor decline in the price of raw cotton for the '59 crop year had had no effect on the cotton cloth market, thus evidencing substantial textile strength.

7. General level of economic development in the country at large continues favorable with improvements to date continuing to exceed earlier expectations.

8. The prices of our products are very low, standing at 89.7 on the non-food wholesale price index against 128.1 for all commodities, using 1947-49 as 100. In addition to the favorable price values of our products, many improvements in fibers, yarns, and finishes make for better products all along the line.

It would appear that the promise for future growth is better than it has been in years. The gap between production and consumption has narrowed considerably, almost to the point of disappearance.

Convinced that textile fabric prices are on the rise, converters have made substantial forward commitments. Some fabrics have been bought into the first quarter of next year. At the same time, the explosive nature of the nation's population growth should be an important factor in maintaining a healthy ratio between production and consumption. Latest estimates show that the total population over the next decade will rise about 17%. Even more important, the 15 to



Nat Leavy, President TDI

24 year-old age group will increase approximately 50% during the same period. It is this latter group which is the largest buyer of textile products not only in apparel, which consumes 43% of textile products, but also household products as they form new homes.

We would like to see the improvement in the total textile picture consolidate its gains and further strengthen its position. We believe that our sources of supply could help if they would pay more attention to the job of managing their production. We again suggest to the textile mill products industry the following concrete steps which will not only benefit them, more than us perhaps, but which will also benefit all segments of the industry:

1. Undertake a competent, adequate, and complete survey of the textile mill products industry to arrive at a satisfactory and accepted definition of "capacity."

2. Determine reasonable levels of actual probable consumption by category of end use.

3. Gear production facilities properly in relation to capacity and consumption by end uses so that markets are supplied in an orderly manner with no major inventory build-ups in any category due to obvious but unnoticed shiftings.

We will be troubled somewhat during the next few months by accustoming ourselves to the fiber labeling law—a completely unnecessary piece of legislation which simply will increase bookkeeping and provide no useful information not already available to the consumer. Members of the rayon converting industry working through The Textile Distributors Institute will find that the TDI will be able to help them substantially in making necessary determinations as to compliance, etc.

The American Standards Association will soon come out with a set of end-use performance stand-

ards. The Textile Distributors Institute has cooperated with the ASA and the NRMA in developing these standards. The main purpose of these minimum end-use standards is to arrive at accepted definitions of terms used throughout the industry. The TDI will continue to cooperate with these and other trade associations desiring to improve the quality of our prod-

ucts and at the same time improve our reputation with the consumer.

The importance of the rayon converter in the general marketing pattern of man-made fiber fabrics has been completely established and substantial opportunities are available to those who continue to face up to their responsibilities.

## TDI Labeling Law Forum

Textile distributors, millmen, garment manufacturers and retailers were advised to begin at once to comply with the new Textile Fiber Products Identification Act even though the law does not become effective until March 3. This suggestion was made at an open meeting sponsored by the Textile Distributors Institute to clarify questions in the trade on the ways to comply with the new law and the Federal Trade Commission's rules for its enforcement. The meeting was held on June 23 at the Engineering Societies Auditorium in New York City. Nat Leavy, president of TDI, opened the meeting and introduced a panel of industry leaders. Jesse D. Wolff, Weil, Gotshal &

Manges, TDI counsel served as moderator. Some 150 persons attended the two hour session.

## Records of Musical Show

Recordings of the complete Textile Distributors annual musical comedy staged at the TDI's annual golf outing in June are available in limited number, it was announced last month by Miss Hilda A. Wiedenfeld, executive director. They will be sold at cost as long as the supply lasts. This year's TDI show entitled, "Green Cheese and Taffetas or Alonzo in Blunderland" was hailed as unusually successful by those who saw it. Persons interested in obtaining copies of the recording should apply to Miss Wiedenfeld at the TDI's offices, 469 Seventh Ave., New York City.

## Vycron (Continued from Page 68)

In fabrics where the blend contains a high percentage of rayon or cotton, thermosetting resins or compressive shrinking may be necessary.

Heat setting temperatures and equipment suitable vary, depending on the particular fabric. Generally we recommend somewhat lower heat setting temperatures than for other polyesters. A maximum of 365° for 45 seconds has been found adequate.

**Wash & Wear Performance:** Vycron fabrics and fabrics made with proper blends of other fibers show remarkable wrinkle resistance and crease retention after wash and wear tests.

**Pilling:** Vycron has outstanding resistance to pilling. Even though its strength is high, its basic physical structure is such that pilling does not normally occur.

**Blend Levels:** Blends are permitted with Cotton or other synthetics as long as the minimum Vycron is 50% of the total blend.

### Direct Spun Yarns

These yarns are practically nep free. They are very uniform and have superb strength.

Although the yarn shrinkage is high, which is a characteristic of direct spun yarns, fabrics containing Vycron direct spun yarns in the filling can be stabilized by heat setting during finishing. Fabrics made from filament warps (40 to 70 den.) and using Vycron direct spun filling can be stabilized with 10-12% shrinkage in width from off loom goods to finished fabric. Fabrics made from heavier spun warps (18's to 24's) and using Vycron direct spun filling can be stabilized with 7-8% shrinkage in width. After stabilization shrinkage in width is less than 1%.

	30/1 100% Polyester Spun from Staple	30/1 Vycron Direct Spinner	24/1 T-45 Rayon Direct Spinner
Grams/Den. Dry	2.2	3.7	2.8
Grams/Den. Wet	1.87	3.7	1.5
Elongation, Dry	20.7	11.4	7.4
Elongation, Wet	21.4	11.8	12.7
Yarn Shrinkage	.22%	11.0%	12.2%
Fabrics Shrinkage (filling)	1.8%	12.8%	13.1%

## Two-Way Stretch Fabric

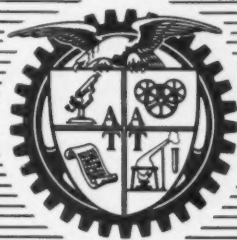
The Government has released reports describing a two-way stretch, waterproof fabric suitable for Navy swim and rescue suits for use in cold water areas, and an Air Force evaluation of fungicidal vinyl coated cotton duck. Both of the following reports can be obtained from the Office of Technical Services, U. S. Department of Commerce, Washington, D. C.

"Development and Evaluation of Waterproof Two-Way Stretch Laminated Fabrics," 22 pages, Order No. PB 151034, 75 cents per copy, and "Evaluation of Fungicidal Vinyl Coated Cotton Duck," 58 pages, Order No. PB 151464, \$1.50 per copy.

## Dynel-Wool Blends

Chatham Fabrics, Inc., has introduced a new group of washable shrink-resistant woolen blend woven apparel fabrics for men's and boy's wear. The fabrics, trademarked "Dyna-Wool," are blended of 65% wool and 35% Dynel, Union Carbide's acrylic fiber. The fabrics are specially processed to provide washability with low shrinkage, in some cases less than two per cent. Dyna-Wool is said to have non-felting and thermosetting characteristics of Dynel which also permits setting of the fabric by heat finishing and sponging, to produce stabilization against further shrinkage. For further information write the editors.

# PAPERS OF THE AMERICAN ASSOCIATION FOR TEXTILE TECHNOLOGY INC.<sup>®</sup>



## A A T T

## Hydrazinium compounds in wet processing

By Hillary Robinette, Jr.  
and Luther O. Young

**W**HEN A NEW FIELD of chemistry is investigated by a research group and the properties of the new compounds are characterized, thoughts are immediately turned toward possible uses. The wet processing and finishing segment of the textile industry is usually considered a potential market for a new organic derivative, particularly if it appears that the chemistry involved in the preparation of the new compounds allows for molecular modification.

If it is possible to "tailor make" the compounds, to create molecular structures which will contribute optimum efficiency as a wet processing or finishing agent, then efforts are made to develop the products commercially and to make them available for textile use. It is just such chemistry and chemical com-

Presented at the June 3rd, 1959 meeting of the American Association for Textile Technology at New York, N.Y.

Mr. Robinette is president of Robinette Research Laboratories. His earlier experience includes six years with Rohm & Haas; employment with Commercial Solvents Corp.; a stint as president of W. H. & F. Jordan Co.; and research work for Publiker Industries. In 1948 he became director of research of Amalgamated Chemical Co., a post he held until 1952 when he established Robinette Laboratories.



Hillary Robinette, Jr.



Luther O. Young

Mr. Young is manager of applications research at W. R. Grace & Co. He has developed the Syloids, a family of fine size silicas and holds patents in this field. Before joining Grace, he had 28 years of experience with Ford Motor Co. in paint and resin manufacture and with General Motors in materials and process engineering. He holds an M.S. degree from Ohio State University.

pounds which we consider in this paper. This, in a way, is a progress report.

Research on hydrazinium compounds began in the research departments of the Davison Chemical Co., Division of W. R. Grace and Co., in 1954 and has continued in the laboratories of the Grace research division. As the new hydrazinium compounds were made available, they were screened for possible textile uses. More than one hundred compounds were investigated. Many proved to have potential textile uses. Based on economics and availability of raw materials, two were selected for commercial development. This development has progressed so that now these new hydrazinium compounds are available for commercial use as fiber and fabric processing and finishing agents. Our report here is limited to textile uses of these two compounds.

Figure 1 shows the general chemical structure of the hydrazinium halides. The R groups may be hydrogen, alkyl, or substituted alkyl groups. The X

groups may be chlorine, bromine or iodine. The compounds having structures as shown are named "hydraziniums" according to the International Union of Chemistry rules. The reader will note from the structure that there is some similarity to the conventional cationic agents such as the quaternary salts and the long chained amine salts which are in use for textile processing. But, the reader will also note this unique hydrazinium structure.

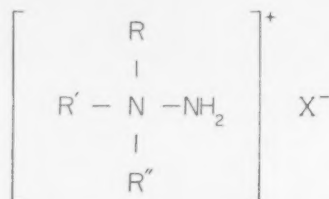


Figure I—General Hydrazinium Structure.

Our investigation of the possible textile applications for these compounds and our evaluation of the relative merit of the selected compounds have shown them to be useful as hand modifiers, softeners and antistatic agents.

Figure II shows the relative efficiency of textile finishing agent CA-100, the commercial name given to one of the high molecular weight alkyl hydrazinium chlorides, as a softener when compared to outstanding competitive softeners. These data were obtained from subjective tests as well as by flex-stiffness measurements made with a Pierce inclined plane flexometer. This compound imparts a full hand with excellent drape.

In contrast to certain other cationic agents, hydrazinium chlorides are stable over a wide pH range. It is compatible with the resin finishes and cellulose reactants presently used for imparting crush resistance and wash and wear properties to cotton and rayons. It is compatible with wetting and rewetting agents and with selected optical whiteners commonly used in textile finishing.

Outstanding resistance to yellowing is exhibited and Figure III presents the yellowness factors which were determined with a Hunter Reflectometer on bleached white cotton fabrics.

The resistance to yellowing under influence of heat is also excellent and Figure IV presents data obtained with a Hunter Reflectometer following scorch tests conducted on the fabrics at 365 degrees Fahrenheit for thirty seconds.

Figure V shows the effect of exposure in the Fadeometer on fabric samples treated with the hydrazinium compound and with competitive softeners. The yellowness factors were determined after Fadeometer exposure using the Hunter Reflectometer.

This finishing agent is compatible with and is ideally suited for modifying resin finishes. It has little or no chlorine retention and, therefore, will not add to the problem encountered by the use of chlorine retentive resins. The hand, the drape and the tear resistance of resin treated fabrics or fabrics treated with cellulose reactants to impart wash and wear properties are improved. Laboratory studies have shown that this particular structure is

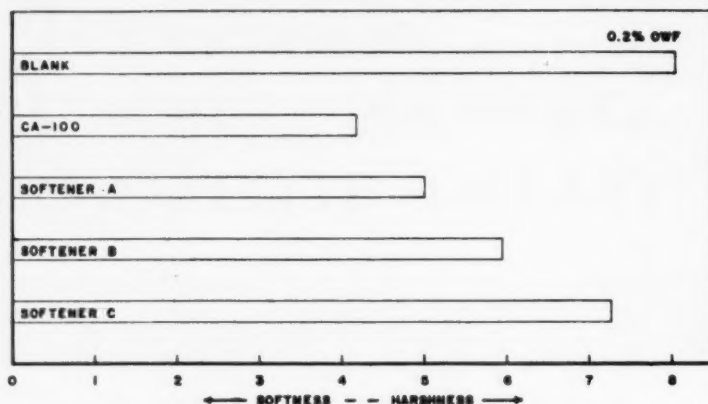


Figure II—Softness rating of fabrics treated with CA-100 and competitive cationic softeners.

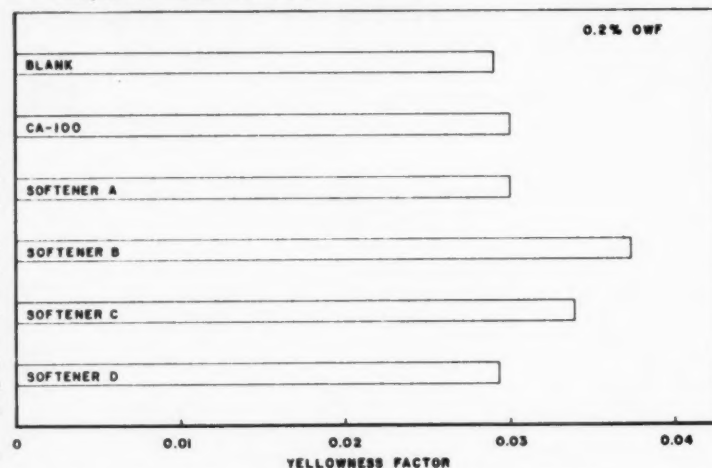


Figure III—Initial yellowing—Hunter reflectometer reading.

compatible with many reasonably priced selected optical whiteners. This is in contrast to the general observation of a lack of compatibility of optical whiteners with a number of the cationic softeners in general use in the textile industry. The hydrazinium applied simultaneously with an optical whitener gives the excellent softness obtainable with a cationic along with the normal whiteness obtained with the usual nonionic softener formulation.

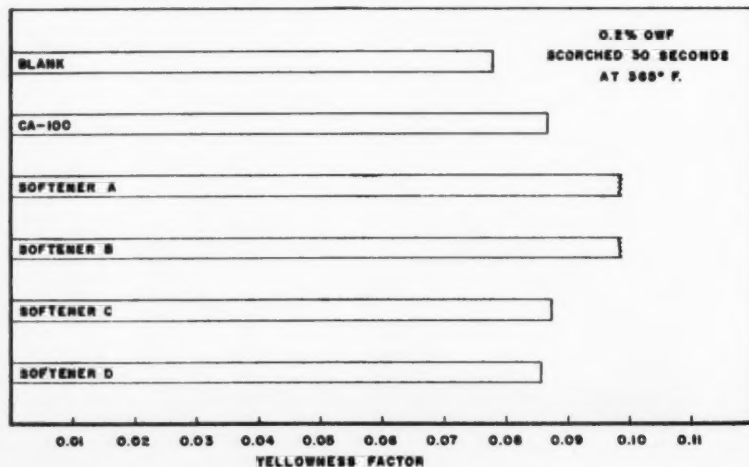


Figure IV—Accelerated yellowing—Hunter reflectometer reading.



Another unique property in contrast to other cationic softeners is its controlled rate of exhaustion. It can be applied to yarns in a package machine. Tests have shown that concentrations of one to two percent based on the weight of the yarn can be

The hydrazinium has been tested commercially with wash-wear resin finishes. The compound was incorporated directly into the resin bath along with specific optical whiteners. Cotton fabrics treated in these baths retained whiteness over prolonged periods; have excellent flex abrasion, excellent crease resistance and a superior hand.

The evaluation work conducted in the development program has shown that the hydrazinium compound contributes excellent softening with minimal lowering of tensile strength; is compatible with resin finishes; is compatible with optical whiteners; shows little chlorine retention; has excellent non-yellowing properties; does not affect light fastness of pastel colors; has excellent stability on aging to both heat and light.

The evaluation work has further shown that the hydrazinium compounds are applicable to synthetic fibers and may be applied to yarns in a package machine.

Static, that tribo-electrical effect which plagues the textile industry from synthetic fiber manufacturer to ultimate consumer, can also be controlled with hydrazinium compounds.

The hydrazinium compound selected for commercialization is a lower molecular weight hydrazinium chloride designated as Antistatic Agent CA-88. The structure of the compound is also represented by the formula that was shown in the first Figure. It differs from Compound CA-100 primarily in its solubility characteristics. It has the high degree of stability and compatibility exhibited by the higher molecular weight compounds, but it is not as efficient as a softener or lubricant. It does, however, exhibit unusually good antistatic properties. Figure VI shows the percent by weight of antistatic agent necessary to give a completely astatic fiber when tested at 30% relative humidity. Polyacrylic, Polyester and polyamide fibers were selected for use in this test. To compare the relative efficiency of this hydrazinium

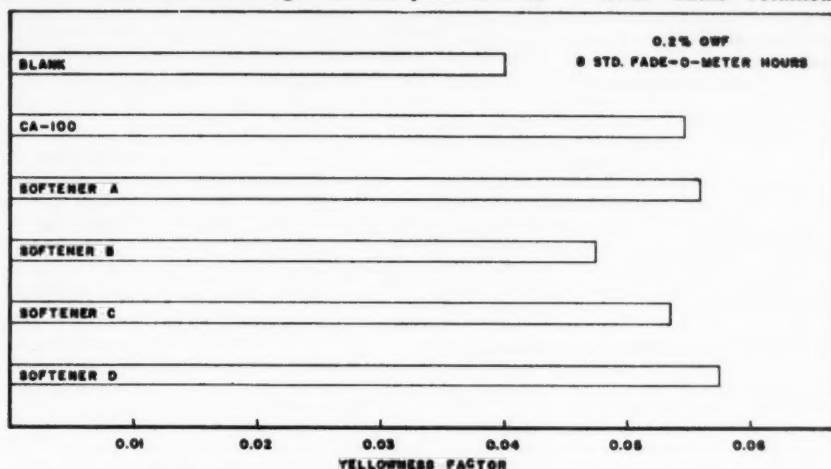


Figure V—Light fastness—Hunter reflectometer reading

evenly applied throughout a package in commercial package dyeing equipment. This property is not exhibited by most cationic softeners. Because of their high degree of sensitivity and substantivity, they are not usually applicable to package processing. Yarns from packages treated with the new structure are uniformly soft. Knitability tests performed on yarns from the inside, middle and outside of packages show that a uniform treatment is obtainable.

The hydrazinium compound may be applied either by exhaustion techniques or by padding techniques. Successful results are obtained by dye jig application. One to two percent CA-100, based on the weight of the fabric, can be exhausted onto the fabric by running four ends on the jig at a temperature of ninety degrees to 100°F. One half of the required quantity is added on the first end and the remainder is added on the second end.

Plant applications to direct dyed, vat dyed and sulfur dyed corduroys show the superiority of the hydrazinium as a corduroy finish. The finish on corduroy results in a silkier hand and a more uniform pile appearance.

The hydrazinium has been successfully applied to fabrics of Acrilan, Orlon, wool, cotton and rayon by padding techniques. Concentrations of one to two percent, based on the fabric weight, padded on at 100°F. have proven successful.

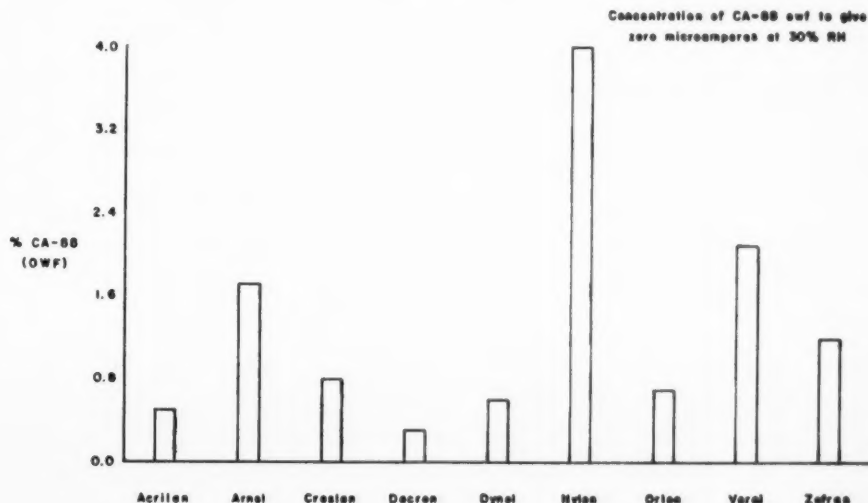


Figure VI—Antistatic effect of CA-88 on various fibers.

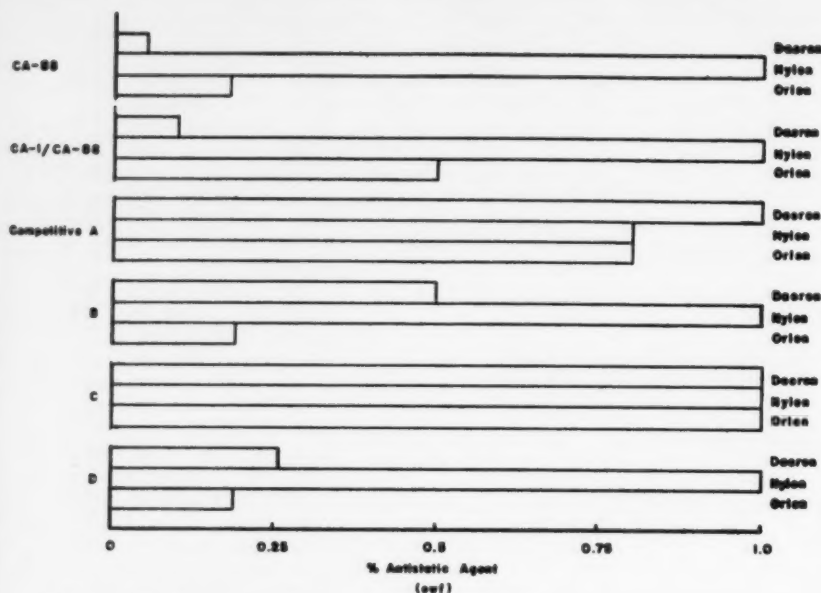


Figure VII—Percentage of antistatic agents to give zero microamperes at 35% R. H. (Based OWF).

compound with other commercially available antistatic agents, experiments were made to determine the minimum concentration of agents necessary to impart complete static control at low humidity. Figure VII presents in graphic form the results of these experiments. The competitive compounds are antistatic agents which are commercially available and recommended for control of static on fibers and fabrics.

Figure VIII—Cost of antistatic treatment of fiber at 35% R.H. (Cents per 100 pounds of fiber).

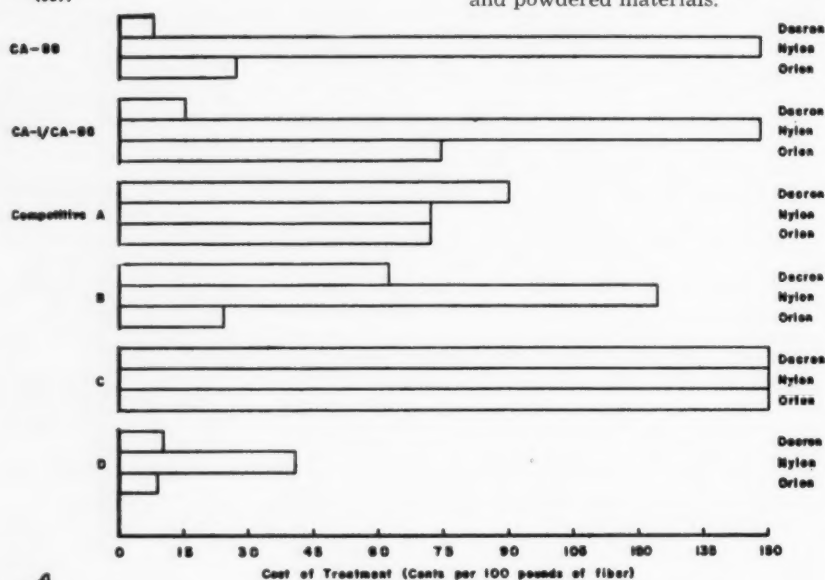
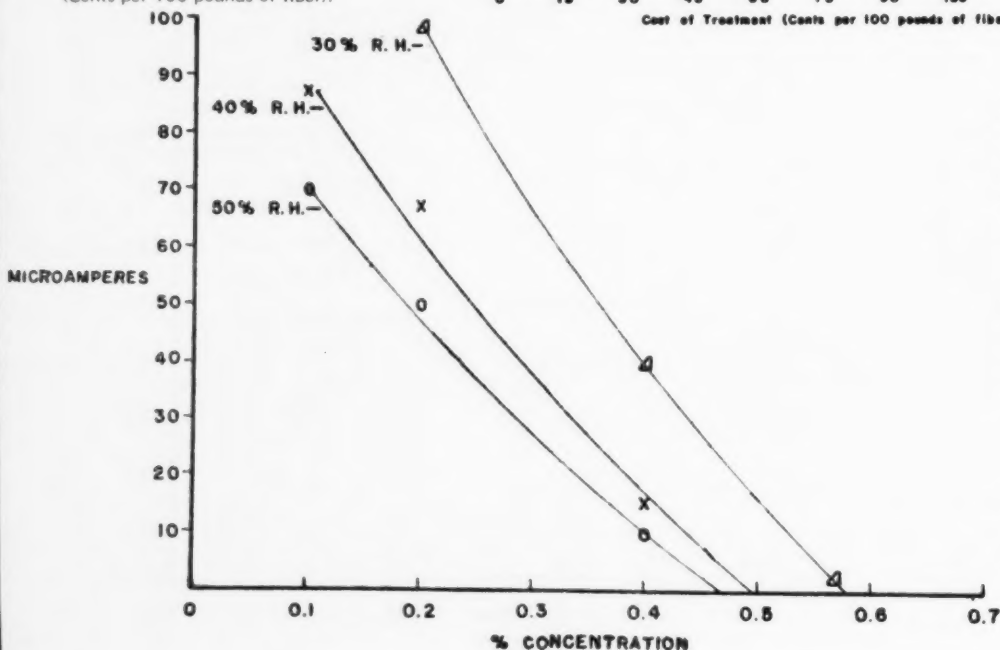


Figure VIII shows the cost of an antistatic treatment in cents per hundred pounds of fiber. Figure IX shows the effect of concentration on the static propensity of treated Acrilan at three levels of humidity.

The static propensity of the treated and untreated fibers was measured with an instrument constructed in our laboratories. It utilizes a floating grid detector and a mechanical oscillator coupled to a simple amplifier. The circuit is so designed that relative charge intensity may be read directly from a microammeter or peak voltages observed on an oscilloscope. The instrument may be used for determining static propensity of fibers, yarns, fabrics or films and powdered materials.



Through the use of blends of hydrazinium compounds a range of finishing effects and antistatic effects may be obtained. Softness and lubricity can be achieved with the high molecular weight component and static control obtained with the lower molecular weight component.

Figure IX—Effect of humidity and concentration on antistatic behavior of CA-88 on Acrilan.

In addition to the use of these compounds for commercial application by fiber, yarn and fabric processors, finished garments may be retreated either in home laundry machines or by professional laundries to rejuvenate the "hand" and, in part, astatic properties. Because of the high degree of control over the exhaustion rate of these hydrazinium compounds, successful retreatment may be conducted time after

time with no adverse effects from greasiness or increased yellowing due to build-up.

Only two uses for two hydrazinium compounds have been discussed. Of the more than 100 hydrazinium derivatives that have been prepared others may find their place in the textile industry, one of the largest users of the great variety of chemicals. The hydrazinium compounds have a promising potential.

## Discussion

*After Mr. Robinette had read his and Mr. Young's prepared paper, he answered questions from the audience. The following is a summary of some of the questions.*

**RALPH SHARBERT:** What are the physical characteristics of these products?

**ROBINETTE:** The long chain hydrazinium compounds are white crystalline substances, pliable or dispersible in water without the aid of additional adjuncts.

**SIDNEY EDELSTEIN (Dexter Chemical Corp.):** Separating the antistatic point of your talk from the other aspects, the only thing of interest, in my opinion,

is strictly a matter of cost. Do these products sell for more than 50 cents a pound for 100% active material?

**ROBINETTE:** There are two products that are available now. Prices have been established and it is believed that they are competitive.

**HENRY C. SPEEL (Schwarz & Speel):** What about skin irritation?

**ROBINETTE:** The compounds that have been considered for commercial use have been tested for dermatological properties. The reports of the testing laboratories are available and the evidence is favorable.

## Dyeing Notes

### New Surfactants

Tanatex Chemical Corp. has introduced two new surfactants, Levapal and Tanapon X-70. The first is a complex modified anionic surfactant used to give level dyeings on goods containing polyester fibers. Levapal is used to paste the disperse dye using 2% on the weight of polyester fiber present. Tanapon X-70 is a modified solvent-free surfactant applicable in the preparation of goods containing polyester and other fibers. *For further information write the editors.*

### Filament Nylon Dye

Sandony Fast Violet 4RL has been added by Sandoz, Inc., to its list of dyes which cover barré effects on heat textured filament nylon knit goods, nylon knit fabrics and nylon tricot. Sandoz reports the washfastness of the color meets fastness requirements for Ban-Lon knit goods. The new dye's build-up is good, as are its other dyeing properties, while its reserves Orlon and Dacron. *For further information write the editors.*

### Ultraviolet Absorber

Polyethylene and polypropylene plastic products for outdoor use may soon be practical because of a new ultraviolet light absorber developed by American Cyanamid

Co. Dr. J. A. Weicksel, product supervisor for Cyanamid's line of Cyasorb ultraviolet absorbers, believes the new product—2,2'-dihydroxy-2-n-octoxybenzophenone—will increase annual polyethylene consumption as much as 10 to 50%. Polyethylene consumption in 1958 reached 832 million pounds. A similar polypropylene market is anticipated. *For further information write the editors.*

### Fluorescent Pigments

Switzer Brothers has announced price reductions for its daylight fluorescent pigments in all A and D series. Production of the B series of pigments has been discontinued. The price reductions, the company said, reflected increased production brought about by greater demand for the pigments in paint, inks, plastics, and coatings, larger volume of sales, and the installation of new equipment. *For further information write the editors.*

### LW59 Rainwear Coating

Aldan Rubber Co. has introduced LW59 waterproof rainwear coating. In light of the success a breeze-weight nylon rainwear coating has been having in Europe, Aldan's laboratory has completed tests of its own along the same lines. Its coating, for men's, women's and children's rainwear, is lightweight and washable. *For further information write the editors.*

### 'Super-Bright' Yellow

A new "super-bright" yellow dyestuff, particularly recommended for cellulosic fibers, has been developed by the Dyestuff Division of Geigy Chemical Corp. The new direct dye, Diphenyl Brilliant Flavine 7GFF, is said to have a distinct fluorescent cast and a light fastness rating of 3 on both rayon and cotton. Similar ratings are obtained for washing at 120 degrees F. Geigy's new product also is recommended for screen and machine printing. *For copies of Bulletin 113-G, describing the new dye, write the editors.*

### Ethylene Urea Flakes

Metro-Atlantic, Inc., has added "Atco EUS" to its line of ethylene urea products. The new item is ethylene urea supplied in a free flowing dry flake form containing very low amounts of insolubles. *For further information write the editors.*

### Synthetic Color Trends

The Finishing Division of American & Efrid Mills, Inc., is distributing its "Fashion Color Trends." The file folder of swatches presents 48 solid and heather shades created for four synthetic and blended fabrics. Included is an Arnel-Orlon jersey, introduced by Dana Textile Mills, and "Reactex," a special finish developed in cooperation with the Quaker Chemical Products Corp. *For the file folder of colors write the editors.*

# TEXTILE

## NEWS BRIEFS

### Plastic Apparel Materials

Formation of a jointly-owned firm, Esb-Reeves Corp., for the development of porous and microporous plastic materials suitable for wearing apparel and other end uses, was announced by The Electric Storage Battery Co. and Reeves Brothers, Inc. Existing plants and facilities of the two parent firms will be used to initiate the manufacture of the new products. *For further information write the editors.*

### Georgia Tech Gets Funds

Cash grants and supplements totaling \$28,200 for the 1959-60 fiscal year have been awarded to the Georgia Institute of Technology by the Textile Education Foundation, Inc., Dr. Edwin D. Harrison, Tech president, announced. Additional funds, up to \$30,000, will be made available for machinery purchases on a matching basis with Georgia Tech funds, he added. The greater part of the funds will be used by the A. French Textile School.

### Metlon Japanese Agency

Gunze Trading Co., Ltd., Tokyo, Japan, will become the exclusive representative for the Metlon Corp. in Japan. Gunze Trading, an affiliate of Gunze Silk Co., is a large manufacturer and producer of textile fibers and fabrics in Japan. It maintains offices in Tokyo, in other Japanese cities and in leading world centers.

### To Use Roberts' Frames

Roberts Co.'s new long fiber spinning frame, the Arrow WM-2, has been selected to equip the knitting yarn plant to be built by National Spinning Co. at Brunswick, N. C. Initial contracts call for installation of 12 full length Arrow WM-2 frames, according to Robert E. Pomeranz, Roberts president. Featuring PermaSet drafting, the Arrow WM-2 is capable of spinning any yarn type from all natural or synthetic fibers and blends in staple lengths up to 8 inches, without any changes or adjustments necessary. *For further information write the editors.*

### Du Pont Carpet Program

Du Pont has taken an additional step to improve the quality of 100% nylon carpets covered by its label. New Licensing agreements with mills now participating in the company's labeling program became effective June 15. Under

the new agreements, a double backing is required on all tufted carpets with less than 30 ounces per square yard of nylon in the pile, and labels will be issued by Du Pont for use only on first-grade carpeting. *For further information write the editors.*

### New Tyrex Appointments

Three new representatives have been added to the field force of Tyrex Inc., a voluntary non-profit association representing five major manufacturers of tire yarn and cord. The new appointees are: Lawrence K. Keogh, for special assignments in the New York City area; H. L. Baumgardner, Jr., assigned to the Detroit office, and Patrick Montroy, who will work out of the newly-established Chicago office.

### New Dayton Rubber Firm

Dayton Rubber Co. has formed a new company in Chicago, Dayton Industrial Products Co. division, to handle the firm's growing line of industrial and automotive products. All of the activities of Dayton Rubber's former mechanical goods sales division will be incorporated in the new division, C. M. Christie, president, said.

### 'The Stars Are Too High'

Agnew H. Bahnson, Jr., president of The Bahnson Co., has written a novel of the future. "The Stars Are Too High," concerns a space ship that uses gravitational forces to lift itself from the earth. The book puts forward a philosophical concept of how man might save his world from destruction in this era of nuclear weapons. Published by Random House, the book is priced at \$3.95 per copy.

### To Sell Fawcett Yarns

Hughes Fawcett, Inc., has appointed the Sales Division of Ralph Gossett and Co., Greenville, S. C., to handle the sale of Fawcett linen yarns in southern states.

### Textile Defects' Manual

"Standard Procedure of Quality Evaluation for Woven Textiles," with a manual of defects and imperfections, has been published, as approved and adopted by the Inter-Industry Committee of The National Association of Shirt, Pajama and Sportswear Manufacturers and The Textile Division of The American Society for Quality Control. The essence of the formula in the manual, which took two years to prepare, is that defects are not evaluated for what they are but on the basis of how big they are and how frequently they occur in a piece of goods. *For copies of the manual, write the editors.*

### Dyers Reelect Lewis

Dean M. Lewis, of Colonial Piece Dye Works, was reelected president for his 11th consecutive term of the Silk & Rayon Printers & Dyers Association. At a recent meeting the SPRDA also changed its bylaws to permit membership by dye manufacturers, fiber producers, textile factors and others associated with processors. Dues for associate membership will range from \$100 to \$750 a year, based on sales figures, plus an initiation fee. Adoption of quality standards, and their enforcement, also was discussed at the meeting.

Adolph Wiese, Weehawken Dye Works, was elected a new director. All other officers and directors were reelected.

### Wallerstein 'Open House'

Wallerstein Co. held an Open House for all employees and their families to celebrate the recent opening of the firm's new administration building at Mariners Harbor, Staten Island, N. Y. The building houses the executive, sales and general offices. It is the first time in 40 years that the firm's offices, manufacturing facilities and laboratories are located at one site. More than 1,600 persons visited the new facilities at the open house party.

### Saco-Lowell Changes

Assignment of the operating duties formerly performed by Harry K. Smyth, Saco-Lowell vice president and assistant general manager of both its textile machinery division at Easley, S.C., and its gear and machine division at Sanford, was announced recently by Thomas J. Ault, Saco-Lowell Shops President. In June Smyth, who will continue as a Saco-Lowell vice president, asked to be relieved of his operating duties because of ill health. He now is on leave.

Royden Walters, Boston based Saco-Lowell vice president, will become, in addition to his Boston post of executive assistant to the president, executive vice president and assistant general manager of both the Easley and Sanford operations.

At Easley, Henry A. Jewell, who has been director of procurement and material control at Boston, will become works manager of the textile machinery division. J. Woodward Hubbard, general sales manager of the division, will continue in that post.

At Sanford, Howard J. Haug will move from manufacturing manager to works manager. Leo Cartier, who recently joined Saco-Lowell's Boston staff, will move to Sanford to become assistant works manager.



### Metlon on Warp Beams

Metlon Corp. has completed arrangements with Acme Warping Co., Paterson, N. J., to meet customer demand for Metlon-with-Mylar on warp beams, especially paper beams. For further information write the editors.

### Kayser Buys Phoenix

Kayser-Roth Corp. has signed contracts for the purchase of the controlling stock of the Phoenix Hosiery Co., Milwaukee, Wis. Phoenix will be operated as a separate division, according to Chester H. Roth, president of Kayser-Roth. Phoenix, which manufactures men's and women's hosiery, was founded in 1880.

### 1960 Greenville Show Dates

The 1960 Southern Textile Exposition will be held for five days, October 3-7, at Greenville, S. C. Exhibit space has been increased; in addition to Textile Hall, designed and built for the showing of heavy machinery, there are eight connecting annexes, the layout covering almost an entire block.

### Form Managers' Group

Office manager representatives from a large number of member companies of the Textile Section, New York Board of Trade, have organized a group to discuss mutual problems and to assist each other in areas of mutual interest.

Daniel Cohen, vice president of M. Lowenstein & Sons, Inc., was elected chairman of the new group. Ralph J. Bachenheimer, of Iselin-Jefferson Co., Inc., and chairman of the Textile Section, said the newly-organized sub-division solicits inquiries by other members of the section. For further information write the editors.

### New Nylon Plant

A multi-million dollar nylon yarn plant will be constructed by Chemstrand Corp. on a 1,400-acre tract near Greenwood, S. C. Initial capacity, available in late 1960, will be 10 million pounds of nylon 66. The firm's nylon plant at Pensacola, Fla., has an annual capacity of 114 million pounds.

Chemstrand also plans to construct a nylon development center at Pensacola and a multi-million dollar research center in the North Carolina Research Triangle Park near Raleigh, Durham and Chapel Hill.

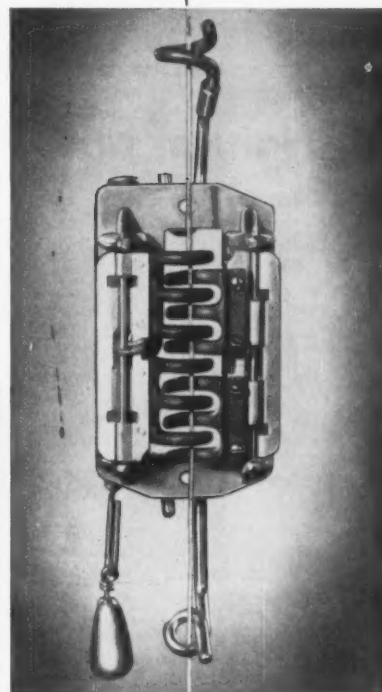
### Form New Dyeing Firm

Linn Mills Co. and Corriher Mills Co. have formed a wholly-owned subsidiary, Corlin Processing Co., Inc., to dye and finish textile products. Construction and machinery costs of the Corlin plant to be set up at Landis, N. C., are estimated at \$750,000. Plant capacity is designed to dye or bleach about 90,000 pounds of

try  
**HEANIUM**

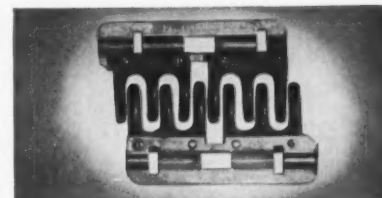


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YARN DAMAGE**



If guide wear is a problem in your mill . .

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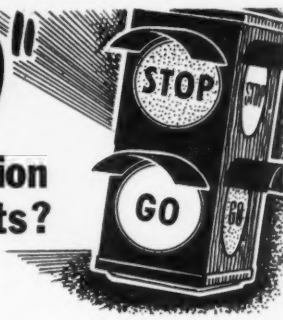


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yarn per week, on a three-shift basis. Production is slated to begin about January 1, 1960. L. P. Muller and Co., sales agent for the parent corporations, will offer the production of Corlin.

#### Hartford Changes Name

The name of the Hartford Rayon Co., a division of Bigelow-Sanford Carpet Co., Inc., has been officially changed to Hartford Fibres Co. Chester C. Bassett, Jr., vice president of Hartford Fibres, said the name of the division was changed because of the diversity of end-uses for Hartford's products.

#### Kodel Expansion

Construction of a multi-million dollar addition to the present production facilities for Kodel polyester fiber at the Tennessee Eastman Co. plant in Kingsport, Tenn., has started. When the addition is completed, production capacity at Tennessee Eastman, a division of Eastman Kodak Co., will be in excess of 20 million pounds. Initial production from the new plant will be available about mid-1960. Men's clothing made with Kodel was introduced this spring. The new fiber will appear in a broader range of men's,

women's and children's apparel this fall.

#### Carbic Changes Name

Carbic-Hoechst Corp. is the new firm name of Carbic Color & Chemical Co., effective July 1, 1959. Carbic-Hoeschst will continue the headquarters of its Dyestuff Division at 451 Washington St., New York 13, N. Y., with headquarters of its Pigment Division located in West Warwick, R. I.

#### New Proctor Office

Proctor & Schwartz, Inc., Philadelphia, Pa., has opened a new sales office at 8946 Fleetwing Ave., Los Angeles 45, Calif. The office is under the direction of Robert L. Hendricks.

#### New Butterworth Agents

H. W. Butterworth & Sons Co., division of Van Norman Industries, has appointed agents to sell and service the Butterworth line of textile bleaching, mercerizing, dyeing, drying and finishing machinery in New England and the South. The agents are United States Supply Co., Inc., East Providence, R. I., and Industrial Heat Engineering Co., Greenville, S. C.

#### Borg Patents Valid

In a final decree by the U. S. District Court for the Western District of Wisconsin, several patents in a civil action suit against Great Lakes Mills, now Glenoit Mills, by the George W. Borg Corp., now Amphenol-Borg Electronics Corp., were held valid and infringed. The suit involved patents for the manufacture of deep pile fabrics, one of which covered the process to produce a fur-like fabric sold under the registered trade mark Borgana.

#### New Avisco Department

The research and development division of American Viscose Corp. has had an organizational realignment resulting in the creation of a polyolefin department. Dr. John A. Howsmon will head the new department. Polymer work on polyolefins and polymer characterization, previously performed in the basic research department, will continue essentially as before but will be transferred to the new unit. Polypropylene fiber and film development also will be transferred to the new department. Dr. Robert D. Evans, heading fiber development, and Louis P. Deis, in charge of film development, will report to Dr. Howsmon.

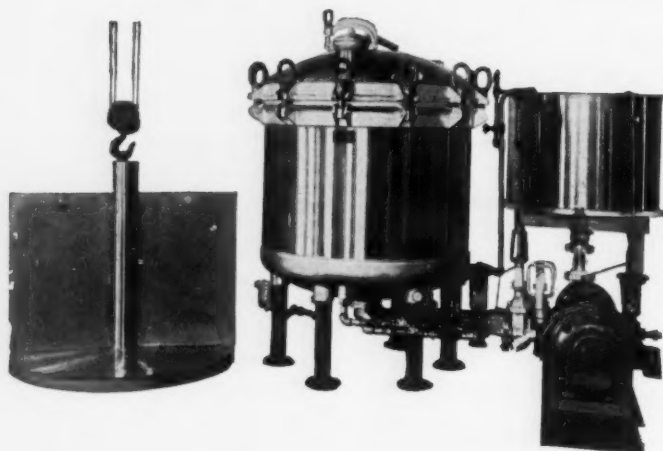
#### Buy Mexican Plant

National Starch and Chemical Corp. has purchased Polimeros S. A., manufacturer of vinyl acetate polymers in Mexico City,

# RAW STOCK MACHINES

for

*Natural and Synthetic Fibers*



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**DYEING MACHINE CO.**

**North Carolina**

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Whitemarsh, Pa.  
Philadelphia AD 3-2901

The Rudel Machinery Co., Ltd.  
614 St. James St. W., Montreal  
260 Fleet St. E., Toronto

A. R. Breen, 80 E. Jackson Blvd., Chicago, Ill.  
J. R. Angel, 1104 Mortgage Guarantee Bldg., Atlanta, Ga.

Mexico. National assisted in the design of the original plant and equipment and had licensed Polimeros to manufacture polymers in Mexico. Donald E. Reese, founder of Polimeros, continues as president of the Mexican firm which will operate as a wholly-owned subsidiary of National. Additional equipment will be installed in the plant so that a complete line of vinyl acetate polymers and copolymers, as well as adhesives, can be produced.

#### New AviSun Film Plant

Completion of a 10 million pound-per-year polypropylene film plant near New Castle, Del., by AviSun Corp. is scheduled for this fall. AviSun, a new equally-owned affiliate of American Viscose Corp. and Sun Oil Co., was formed earlier this year to manufacture, process and market polypropylene resins, film and fibers. A pilot plant for producing polypropylene continuous filament and staple fibers also will be erected on the 214-acre site near New Castle. The film is used as a packaging material. Nicholas E. Carr is manager of the new plant.

#### More Polyethylene

Eastman Chemical Products, Inc., is increasing capacity for the production of polyethylene at Texas Eastman Co., Longview, Texas, from 85 million pounds to 100 million pounds annually.

Allied Chemical Corp. is proceeding with design of a new polyethylene plant to produce both low and high molecular weight polymers, Glen B. Miller, president, told the annual meeting. He also said that additional polyethylene capacity is currently being installed at its plant near Buffalo, N.Y.

#### Install Famatex Dryer

Installation of a Famatex automatic dryer has been completed in the finishing department of LaFrance Industries at LaFrance, S.C. The gas-fired dryer, marketed by Robert Reiner, Inc., handles cloth from wet to dry in one process.

#### Belmont Throwing Expands

Belmont Throwing Corp. has announced it has nearly completed a \$400,000 modernization program that will add 40% to the company's productive capacity. Belmont is a commission throwster, and manufactures stretch nylon under the Plufon patent, and Saaba, a lofted yarn. The company also has appointed two new sales representatives: Donald G. Brewster, who will represent the firm in several Midwestern states, and John Dunn, who will represent the firm in Pennsylvania.

## the NEW Model FDA-RC

### Fade-Ometer®



Exposure conditions can be varied to provide good correlation with either the Daylight or Sunlight exposure methods.

As the two natural light methods on moisture sensitive materials can produce wide variation in colorfastness ratings, it would be expected that two different exposure conditions in the Fade-Ometer would be necessary to duplicate them.

To simulate the day and night cycling of the Daylight method where the specimens are left in the cabinet 24 hours a day, new conditions of higher relative humidity during alternate periods of light and darkness are utilized in the Model FDA-RC.

The new Fade-Ometer may also be operated under the standard conditions for the FDA-R to duplicate the Sunlight method where the specimens are placed in the cabinet only between 9 and 3 on sunny days.

Added new features include an electrically operated atomizer, combination Cycle Meter and Time Switch, and modification of the electrical circuits to permit operation of the components during the light-off period.

All Model FDA-R Fade-Ometers now in use may be easily converted into the Model FDA-RC. Write for full details on either a new machine or on conversion of present equipment.



Weather-Ometer®  
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Complete with supplies.

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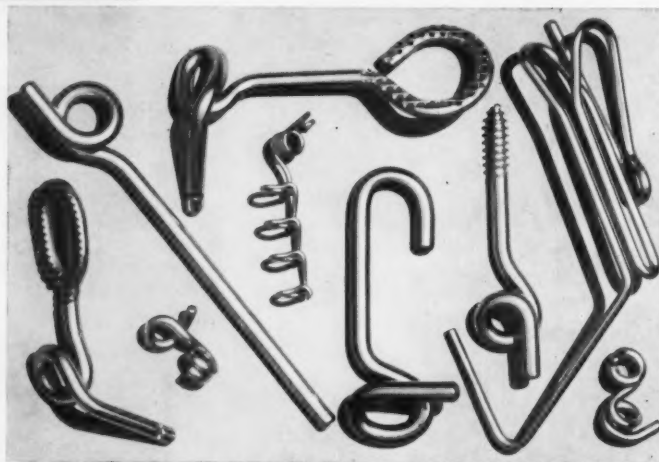
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## Arrow Needle Relocates

Textile Machine Works is transferring its Arrow Needle Co. operations from Manchester, N. H., to its Reading, Pa., plant. The Arrow firm, producer of latch needles and flat stock parts, was purchased by Textile Machine in 1952. The Arrow unit will be integrated with the Wire Products Division, of which Lester Yeager is manager.

## Personnel Notes

**Richard D. Wells**, assistant director of Fabric Research Laboratories, Inc. has been given a six-month leave of absence from the company in order to devote himself full time to the polyvinyl alcohol fiber program of Air Reduction Chemical Co.

**Bertram M. Helfaer** has been placed in charge of Harmon Colors, recently acquired by Allied Chemical Corp. He retains his position as assistant director of research and development for Allied's National Aniline Division. **Charles B. Cole** has been named manager of the Harmon operation in Haledon, N. J.

**Wilbur H. Brumfield** has been appointed executive vice president and **Raymond Largent**, vice president, of the Solvay Process Division of Allied Chemical Corp. Further appointments in the division include: **Bennett D. Buckles**, assistant to the president; **Dr. Robert H. Reed**, assistant director of development; **A. Gregg Noble**, director of purchases; **Dr. Herbert C. Wohlers**, director of research, to be assisted by **Dr. Alan G. Follows**; **Raymond C. Baxter**, assistant director of operations, **Richard A. Hiserodt**, chief engineer, to be assisted by **Robert K. Croll**.

**Philip M. Dinkins** has been re-elected president and in addition has become chief executive officer of General Aniline & Flim Corp. and **John Hilldring** has been re-elected chairman of the board.

**Dr. James L. Taylor** has been appointed director of the A. French Textile School at Georgia Institute of Technology.

**Dr. Milton Harris** has been elected president-elect of American Institute of Chemists. Dr. Harris is vice president of research at the Gillette Co. and president of Harris Research Laboratories, Inc.

**Murray Stempel** has been elected president of Morningstar-Paisley, Inc., succeeding **George J. Muller** who has become vice chairman of the board.

(Continued on Page 95)



# U. S. MAN-MADE FIBER PRICES

This schedule lists the prices of yarns, staple and tow as reported by the producers in July 1959. All prices are given as subject to change without notice.

## CELLULOSIC YARNS

### ACETATE

#### American Viscose Corp.

Current Prices

Effective March 13, 1959

#### Bright and Dull

\* Intermediate Twist

Denier & Filaments	Cones & 4-6 Lb. Tubes	Twister Tubes	Warps	Spinning Cones	Twist Warps
40/11	.....	.....	.....	.....	\$1.14
45/11	.....	.....	.....	.....	1.03
55/14	\$ .99	\$ .97	\$1.00	.....	.....
75/20	.95	.93	.96	\$ .89	.90
100/28	.91	.89	.92	.85	.86
120/32	.82	.80	.83	.76	.77
150/41	.74	.73	.75	.69	.70
200/54	.70	.69	.71	.66	.67
300/80	.66	.65	.67	.62	.63

\* Standard Twist 2¢ Additional.

Terms: Net 30 Days.

#### Celanese Corp. of America

Current Prices

Effective March 10, 1959

#### Bright & Dull

Denier and Filaments	Intermediate Twist 4 & 6-Lb.		4-Pound Cheeses		Spinning Twist		O Twist Tubes
	Cones	Beams	Cones	Beams	Cones	Beams	
45/13	\$1.12	\$1.13	.....	.....	.....	.....	.....
75/20	.95	.96	.....	.....	.89	.90	.79
75/50	.97	.98	.....	.....	.....	.92	.84
100/26-40	.91	.92	.....	.....	.85	.86	.77
120/40	.82	.83	.....	.....	.76	.77	.....
150/40	.74	.75	.74	.....	.69	.70	.66
200/52	.70	.71	.....	.....	.66	.67	.....
300/80	.66	.67	.....	.....	.62	.63	.60
450/120	.66	.67	.....	.....	.62	.63	.....
600/160	.65	.66	.....	.....	.....	.....	.....
900/80-240	.63	.64	.....	.....	.....	.....	.61

150 Denier 12-TM Tubes ..... .73

2-Pound Cheeses ..... .01 Less Than 4-Pound Cheeses

2-BU and 4-BU Tubes ..... Same Price as 4 and 6-Lb. Cones

Prices subject to change without notice.

All previous prices withdrawn.

Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgements of orders.

#### Celaperm Filament Yarn Prices

Denier and Filaments	Intermediate Twist 4 & 6-Lb.		Spinning Twist	
	Cones	Beams	Cones	Beams
55/15	\$1.37	\$1.38	\$1.31	\$1.32
75/20	1.34	1.35	1.28	1.29
100/26	1.28	1.29	1.22	1.23
120/40	1.19	1.20	1.13	1.14
150/40	1.11	1.12	1.06	1.07
200/52	1.05	1.06	1.01	1.02
300/80	1.01	1.02	.97	.98
450/120	.99	1.00	.95	.96
600/160	.97	.98	.....	.....
900/80	.94	.....	.....	.....

#### Celaperm Black Yarn Prices

Effective March 11, 1955

Denier and Filaments	Intermediate Twist 4 & 6-Lb.		Spinning Twist	
	Cones	Beams	Cones	Beams
55/15	\$1.17	\$1.18	\$1.11	\$1.12
75/20	1.14	1.15	1.08	1.09
100/26	1.08	1.09	1.02	1.03
120/40	.99	1.00	.93	.94
150/40	.91	.92	.86	.87
200/52	.85	.86	.81	.82
300/80	.81	.82	.77	.78
450/120	.79	.80	.75	.76
600/160	.77	.78	.....	.....
900/80	.74	.....	.....	.....

3 to 5 Turns on Cones or Beams — \$.02 Additional

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of orders.

#### E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Acetate

Denier & Filament	Zero Twist		Low Twist		Intermediate Twist			
	Tubes	Beams	Cones	Beams	2 & 4 Lb. % Tubes	4 & 6 Lb. Tw. Tubes	Cones	Beams
40-13	\$1.06	\$1.13	.....	.....	.....	.....	.....	.....
45-13	1.03	1.11	.....	.....	.....	.....	.....	.....
55-18	.925	.985	.....	.....	.....	.....	.....	.....
55-24	.925	.985	.....	.....	.....	.....	.....	.....
75-24	.84	.94	.....	.....	.....	.....	.....	.....
75-50	.....	.....	.....	.....	.....	.....	.....	.....
100-32	.81	.89	.....	.....	.....	.....	.....	.....
120-50	.77	.80	.....	.....	.....	.....	.....	.....
150-40	.69	.72	.72	.73	.77	.77	.77	.77
200-60	.68	.....	.69	.70	.73	.73	.73	.74
240-80	.....	.....	.67	.....	.....	.....	.....	.....
300-80	.63	.65	.65	.66	.69	.69	.69	.70
450-120	.63	.....	.63	.64	.67	.67	.67	.68
600-160	.....	.....	.....	.....	.65	.....	.65	.66
900-44	.....	.....	.....	.....	.63	.....	.63	.64
900-240	.61	.....	.....	.....	.63	.....	.63	.64
1800-88	.....	.....	.....	.....	.61	.....	.61	.62
2700-132	.....	.....	.....	.....	.61	.....	.61	.62
3000-210	.....	.....	.....	.....	.61	.....	.61	.62

(A) Regular Twist (2.9 and 5 T.P.I.)—add \$.02 to Intermediate Twist Price.

(B) 1 lb. % Tubes—add \$.02 to 2 & 4 lb. % Tube Price.

#### Color-Sealed

Denier & Filament	Zero Twist		Low Twist		Intermediate Twist			
	Tubes	Beams	Cones	Beams	2 Lb. Tw. Tubes	4 & 6 Lb. Tubes	Cones	Beams
55-18	\$1.245	\$1.315	.....	.....	\$1.32	\$1.35	\$1.37	\$1.38
75-24	1.18	1.28	.....	.....	1.29	1.32	1.34	1.35
100-32	1.14	.....	.....	.....	1.23	1.26	1.28	1.29
150-40	1.03	1.06	1.06	1.07	1.10	1.11	1.11	1.12
200-64	1.00	.....	1.01	1.02	1.04	1.05	1.05	1.06
300-80	.95	.97	.97	.98	1.00	1.01	1.01	1.02

(A) Regular Twist—Add \$.02 to Intermediate Twist Price.

#### Black

Denier & Filament	Zero Twist		Low Twist		Intermediate Twist			
	Tubes	Beams	Cones	Beams	2 & 4 Lb. % Tubes	4 & 6 Lb. Tw. Tubes	Cones	Beams
55-18	\$1.045	\$1.115	.....	.....	\$1.12	\$1.15	\$1.17	\$1.18
75-24	.98	1.08	.....	.....	1.09	1.12	1.14	1.15
100-32	.94	.....	.....	.....	1.03	1.06	1.08	1.09
150-40	.83	.86	.86	.87	.....	.91	.91	.92
200-60	.80	.....	.81	.82	.....	.85	.85	.86
300-80	.75	.77	.77	.78	.81	.81	.81	.82
450-120	.....	.....	.75	.76	.79	.79	.79	.80
600-160	.....	.....	.73	.74	.77	.77	.77	.78
900-240, 44	.....	.....	.73	.74	.74	.74	.74	.75

(A) Regular Twist (2.9 and 5 T.P.I.)—add \$.02 to Int. Twist Price.

(B) 1 lb. % Tubes—add \$.02 to 2 & 4 lb. % Tube Price.

#### Specialty Yarns

Type 20

Type C

Same Price as Regular Yarn

Same Price as Regular Yarn

#### Thick & Thin

Denier & Filament	Natural		Black		Color-Sealed	
	Cones	Beams	Cones	Beams	Cones	Beams
100-22 Int. Twist	.....	.....	.....	.....	.....	.....
200-64 Int. Twist	\$1.34	\$1.35	.....	.....	.....	.....
200-64 Reg. Twist	1.05	.....	.....	.....	.....	.....
200-64 Reg. Twist	1.08	1.09	1.15	1.17	1.21	1.35

Terms: Net 30 days. Subject to changes without notice.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

#### Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Effective March 13, 1959

#### "Estron" Yarn, Bright or Dull — White

Denier & Filament	Regular Twist		Intermediate Twist		Low Twist		Zero Twist		Tricot Beams	
	Cones	Beams	Cones	Beams	Cones	Beams	Tubes	Spun Twist	Zero Twist	Zero Twist
55/13	\$1.01	\$1.02	\$0.99	\$1.00	\$0.93	\$0.94	\$0.82	\$0.87	\$0.86	.....
75/19	.97	.98	.95	.96	.89	.90	.....	.90	.....	.....
75/49	.99	1.00	.97	.98	.....	.....	.....	.....	.....	.....
100/25	.93	.94	.91	.92	.85	.86	.....	.....	.....	.....
120/30	.84	.85	.82	.83	.76	.77	.....	.....	.....	.....
150/38	.76	.77	.74	.75	.69	.70	.66	.....	.....	.....
200/50	.72	.73	.70	.71	.66	.67	.....	.....	.....	.....
300/75	.68	.69	.66	.67	.62	.63	.60	.....	.....	.....
450/114	.66	.69	.66	.67	.62	.63	.....	.....	.....	.....
600/156	.67	.68	.65	.66	.62	.63	.....	.....	.....	.....
900/230	.65	.66	.63	.64	.....	.....	.61	.....	.....	.....
Heavier	.....	.....	.....	.....	.....	.....	.56	.....	.....	.....

**"Chromspun"—Standard Colors (Except Black)**

Denier & Filament	Regular Twist Cones	Beams	Intermediate Twist Cones	Beams	Low Twist Cones	Beams
55/13	\$1.39	\$1.40	\$1.37	\$1.38	\$1.31	\$1.32
75/19	1.36	1.37	1.34	1.35	1.28	1.29
100/25	1.30	1.31	1.28	1.29	1.22	1.23
150/38	...	...	1.11	1.12	1.06	1.07
300/75	...	...	1.01	1.02	.97	.98
450/114	...	...	.99	1.00	.95	.96
900/230	...	...	.94	.95	...	...

**Current Prices****"Chromspun"—Black**

Denier & Filament	Regular Twist Cones	Beams	Intermediate Twist Cones	Beams	Low Twist & Spun Twist Cones	Beams
55/13	\$1.19	...	\$1.17	\$1.18	...	...
75/19	1.16	...	1.14	1.15	...	1.09
100/25	1.10	...	1.08	1.09	...	1.03
150/38	.93	...	.91	.92	...	.87
200/50	.87	...	.85	.86	...	.82
300/75	.83	...	.81	.82	...	.78
450/114	.81	...	.79	.80	...	.76
900/230	.76	...	.74	.75	...	...

Prices are subject to change without notice.

Prices on special items quoted on request.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

\* "Estron" is a trade-mark of the Eastman Kodak Company.

**RAYON****American Bemberg****Current Prices****Regular Production Reel Spun Yarn**

Den/Fil	No Turn	Turned* Skeins	8 1/2 Turns	High Turn Skeins & Cones	12 Turns	15 Turns	18 Turns
40/30	\$1.49	\$1.95	...	...	...	...	\$2.08
50/36	1.29	1.55	...	...	...	...	1.85
65/45	1.19	1.35	...	\$1.58	...	...	1.63
76/60**	1.08	1.22	...	1.45	\$1.50	...	1.53
100/74**	.99	1.12	...	1.37	1.42	...	1.48
125/90	.98	1.09	\$1.13	1.34	...	...	...
150/120	.96	1.05	1.15	1.30	...	...	...
300/225	...	.98	...	...	...	1.11	...
900/372	...	.88	...	...	...	...	...
1800/744	...	.88	...	...	...	...	...

\* Turn includes twists up to 6 turns on 40 and 50 denier, and up to 5 turns on heavier deniers.

\*\* Spun Dyed Cupracolor Black 15¢ per lb. extra.

**"44" HH Spool Spun Yarn**

Den/Fil	No Turn Tubes	No Turn Beams	5 Turns	8 1/2 Turns	12 Turns	15 Turns	18 Turns
40/30	\$1.35	\$1.35	...	...	...	...	...
50/36	1.05	1.05	...	...	...	...	...
65/45	1.10	...	...	...	...	\$1.47	...
75/45*	1.01	...	\$1.12	\$1.12	\$1.35	1.35	\$1.43
100/60*	.93	...	1.07	1.07	1.27	1.27	1.35
125/90	.88	...	1.03	1.03	...	...	...
150/90*	.80	...	.84	.84	1.18	1.18	1.27
150/120	.84	...	...	.86	...	...	...

\* Available also in Spun Dyed Cupracolor Black at 15¢ per lb. extra.

**"44" HH "Parfe" Spool Spun Yarn**

Den/Fil	No Turn Cones	5 Turn Cones	8 1/2 Turn Cones	12 Turn Cones	15 Turn Cones
50/36	\$1.60	\$1.85	\$1.85	...	...
75/45	1.45	1.55	1.55	\$1.75	\$1.85
100/60	1.35	1.45	1.45	1.65	1.75
150/90	1.18	1.25	1.25	1.60	1.70
300/120	1.18	1.25	...	...	...

**Nub-Lite (Short Nubbi)**

Code	Den/Fil	2 1/2 Turn Natural Cones	2 1/2 Turn Cones*	5 Turn Natural Cones	5 Turn Cones*
1515	160/90	...	...	\$1.50	\$1.40
1519**	155/90	...	...	1.50	1.40
2008	200/120	...	...	1.11	1.01
3002	315/180	\$1.15	\$1.05	...	...
4011	410/224	1.15	1.05	...	...
6001	600/360	1.13	1.03	...	...
8001	860/450	1.13	1.03	...	...

\* Basic price for cones when dyed. Dyed Colors 30 and 35 cents above basic price. Prices based on 200 lb. dyed lots only. Prices for natural yarn skeins same as natural cone prices.

\*\* Code 1519 can be run in warp or filling.

**CUPIONI Type B**

Code	Den/Fil	2 1/2 Turn Natural Cones	2 1/2 Turn Cones*	5 Turn Natural Cones	5 Turn Cones*
8650	160/90	...	...	\$1.69	...
9660	100/60	...	...	1.30	...
1545	150/90	...	...	1.15	...
9730	285/135	...	...	1.15	...
9792	450/225	...	...	1.12	...
9814	600/372	...	...	1.02	...
9837	940/372	...	...	...	...

\* Spun Dyed Cupracolor is spun 150, 285, and 940 deniers at 35¢ per pound extra. Cupracolor Black Comes in all deniers.

**STRATA SLUB**

Code	Den/Fil	Turned Cones	Price
9747	275/225	3 1/2	\$1.25
9798	450/372	2 1/2	1.15
9823	600/372	2 1/2	1.10
9847	960/372	2 1/2	1.02
9885	1290/372	1 1/2	1.00
9934	2680/744	1 1/2	1.00

\* Spun Dyed Cupracolor is spun in 600 and 960 deniers at 35¢ per pound extra.

**FLAIKONA**

Code	Den/Fil	Turned Cones	Price
9669	150/148	2 1/2	\$1.35
9769	300/224	2 1/2	1.25
9782	450/270	2 1/2	1.05
9807	600/405	2 1/2	1.05
9840	900/450	2 1/2	1.00
9924	2000/744	2 1/2	.95

\* Spun Dyed Cupracolor Black 35¢ per pound extra.

Terms: Net 30 days, F. O. B. shipping point. Minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight allowed to Memphis, Tennessee. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F. O. B. delivery point.

**American Enka Corp.****Current Prices**

Effective June 29, 1959

**Standard Quality Yarns****Standard Quality Rayon Yarns**

NATURAL									
			Weaving		Skeins		Knitting		
Den./Fil.	Luster	Turns	Cones	Beams	Long	Short	Cakes	Cones	Tubes
50/18	F	5 S						1.63	
50/20	B	2.5 S					1.52		
75/10	B	3 S&Z					1.02		
75/18	E	4 S						1.14	
75/30	B	2.5, 4S&Z	1.14	1.14	1.22	1.31	1.02		
75/30	B	8 S	1.24		1.39	1.49	1.12	1.24	1.29
75/45	P, E	2.5, 4.5S&Z	1.14	1.14	1.22	1.31	1.02	1.14	
75/60	B, P	3.4 Z	1.16				1.04		
100/14	B	3 S&Z				1.15	.90		
100/40	B, E	12 S						1.29	
100/40	B, P, E	4.5 S&Z		.98			.90	.98	
100/40	B	6 S	1.17		1.26	1.36	1.09		
100/40	B, P	2.5, 4S&Z	.98	.98	1.07	1.15	.90		
100/60	B	4 S&Z					.90		
100/60	E	2.5 S	1.00	1.00			.92		
125/40	E	3 Z					.87	.90	
125/50	B, P	3 S	.96	.96					
150/40	E	3 Z	.84						
150/40 Semi H.T.									
150/40	B, P, E	2.1, 3S&Z	.82	.82	.91	.98	.78	.82	
150/40	B, E	5 S&Z	.90	.90	1.10	1.20	.86		
150/40	B, P, E	8 S&Z	.95	.95	1.15	1.25	.91		
150/90	E	2.1 S&Z	.83	.83			.79		.94
200/40	P	3 Z	.81	.81	.90	.97	.77	.81	
200/40	B	8 S				1.06	.94	.98	
250/60	P, E	2.4 Z			.89	.96		.80	
300/30	E	3 S	.81	.85					
300/50	B, E	3 S	.73	.76					
300/60, 120	B, P, E	2.1 S&Z	.73	.73	.79	.86	.71	.73	
300/60	B	3.5 S	.73	.73	.79	.86	.71		
300/60	B	6 S	.83	.83			.94	.81	
300/40, 120H.T.	B	2.5, 3.4S	.75	.75			.73		
450/80	B, E	3 S	.69	.71	.76	.83	.67		
600/80	B, E	3 S	.73	.75					
600/120	B	3 S	.69	.71	.76	.83	.67		
900/120	B	3.4 S	.69	.71	.76	.83	.67		
900/120H.T.	B	3.6 S	.71	.71			.69		
B = Briglo					E = Englo (Dull)				
P = Periglio (Semi-Dull)					H.T. = High Tenacity				

B = Briglo

P = Periglo (Semi-Dull)

E = Englo (Dull)

H.T. = High Tenacity

**Jet spun® (Colored Yarns)**

Den/Fil	Tenacity	Turns	Weaving Cones	Beams	Colors
100/40	Regular	2.5S	\$1.35	\$1.35	All
150/40	Regular	2.1S	1.17	1.17	All
200/40	Regular	8.3S	1.28	1.28	All
300/40	Regular	3.4S	1.09	1.09	All
300/120	Regular	2.1S	1.09	1.09	All
450/80	Regular	3.0S	1.05	1.05	All
600/80	Regular	3.4S	1.04	1.04	All
300/40	High	3.4S	1.11	1.11	All
600/80	High	3.4S	1.07	1.07	All
900/120	High	3.4S	1.06	1.06	All

® Registered Trade Mark for American Enka Solution-dyed Rayon Yarn.

**Skyloft (Lofted Rayon Filament Yarns)****Natural and Jet spun®**

Denier	Denier per Filament	Twist	Natural	Black	Other Colors
2200	7.5	3.5S	\$1.82	\$1.17	\$1.17
2700	15	3.5S&Z	.67	.77	.84
4300	15	3.5S&Z	.67	.77	.84
5300	15	3.0S&Z	.66	.76	.83
		3.0S&Z	.65	.75	.82

**American Viscose Corp.**

Effective June 23, 1959

**Graded Yarns**

Denier	Filament	Type	Short Skeins	Long Skeins	Cones Tubes	Beams Spools	Cakes
50 20		Bright & Dull	...	...	\$1.62	\$1.59	\$1.48
60 10		Bright	...	...	1.44	...	1.33
75 10-30		Bright	1.31	1.22	1.14	1.14	1.02
75 30		Dull	...	...	1.14	1.14	1.02
100 14-40		Bright	1.15	1.07	.98	.98	.90
100 60		Dull	...	...	1.00	1.00	.92

**Louis R. Kessler** has been elected to the newly-created position of operations vice president at Owens-Corning Fiberglas Corp. Other appointments at the company include: **William H. Curtiss, Jr.**, vice president and director of marketing; **John H. Thomas**, vice president and general manager of the Pacific Coast Division; **Ben E. Boyd**, manufacturing vice president.

**R. Lee Brown** has been appointed director of industrial relations at the textile machinery division of Saco-Lowell Shops. **Harry K. Smyth**, vice president and assistant general manager of the company's textile machinery division, and gear and machine division, has been granted an indefinite leave of absence because of ill health.



J. S. Love, Jr.

**James S. Love, Jr.** has been named president of Sidney Blumenthal & Co., division of Burlington Industries. At Burlington Ribbon Mills, **Max Hesse** has become president, succeeding Mr. Love.

**George B. Monk** has joined the marketing department of Werner Textile Consultants.



Girard Iason

**Girard Iason** has been elected president of N. Erlanger, Blumgart & Co., Inc., succeeding **David Seiferheld**, who has become chairman of the executive committee. **Lawrence Iason**, executive vice president, has been elected chairman of the board.

**Dr. Elio Passaglia** has been appointed manager of the basic research department at American Viscose Corp., succeeding **John A. Howsmon** who has been named manager of the newly-created

Polyolefin Department. Mr. Passaglia is succeeded as leader of the physics section by **Harvey D. Keith**.

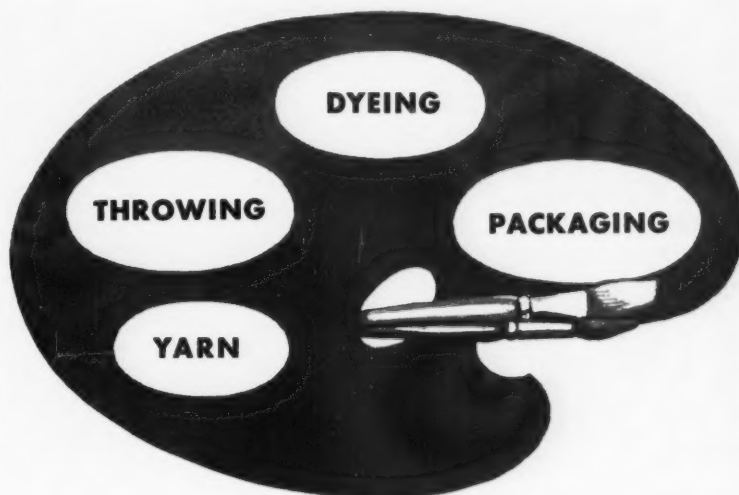
In the company's applications research and development section, **Joseph H. Anderer** has been named assistant manager.

**Richard H. Braunlich** has been named leader of the viscose fibers section, the result of a merger between the staple and viscose filament sections, and **Joseph W. Schappel** has been appointed leader of the viscose staple group in the newly-formed section.

**Earl E. Dye** has joined the fiber application laboratory of Allied Chemical Corp. and **Paul F. Fitzgerald** has been appointed to the fiber technical service department.

**Griffin S. Mackey** has joined the sales promotional division of Arkansas Co. to cover the New York City area.

**M. M. McCann** has been appointed to the technical and sales staff of Metro-Atlantic, Inc. He will work out of the Greenville, S. C. office.



**A COMPLETE PACKAGE**  
of natural or dyed **NYLON, DACRON** or **RAYON** filament  
yarns in all deniers and types to meet your quality standards  
— in one order, for one charge.



Belgrade and Ontario Streets, Philadelphia 34, Pa.  
REgent 9-5256

**SALES REPRESENTATIVES:** Shannonhouse & Wetzell, Johnston Building, Charlotte, N.C.; Carl L. Miller and Sons, Utica, N.Y.; R.C. Osborne & Co., Broad St. and Allegheny Ave., Philadelphia 32, Pa.; The Tillinghast-Stiles Co., 327 South LaSalle Street, Chicago 4, Illinois.

**PLANTS AT:** Philadelphia, Pennsylvania; Quakertown, Pennsylvania; Lansdale, Pennsylvania; Bethlehem, Pennsylvania and Kingston, Pennsylvania.

**PIONEERING SYNTHETIC YARNS FOR OVER 35 YEARS**

150 24-40	Bright	.98	.91	.82	.82	.78
150 40	Semi-Dull	.98	.91	.82	.82	.78
150 40	Dull	.....	.....	.82	.82	.78
150 90	Dull	.....	.....	.83	.....	.79
200 10-44	Bright	.97	.90	.81	.81	.77
250 60	Semi-Dull & Dull	.96	.89	.80	.80	.77
300 15	Bright	.....	.82	.78	.78	.....
300 30	Dull Flat Filament	.....	.....	.....	.85	.....
300 44	Bright & Dull	.86	.79	.73	.73	.71
300 234	Dull	.....	.....	.83	.....	.81
375 60	Bright	.....	.....	.72	.72	.....
450 60-100	Bright	.....	.76	.69	.71	.67
600 100	Bright & Dull	.....	.76	.69	.71	.67
900 50-100-150	Bright	.....	.76	.69	.71	.67
1200 75	Bright	.....	.76	.69	.71	.....
2700 150	Bright	.....	.76	.69	.71	.....

#### Extra Turns Per Inch

75 30	Bright 6-Turns	\$1.49	\$1.39	\$1.24	\$1.24	\$ ....
100 40	Bright 6-Turns	1.36	1.26	1.17	1.17	1.09
150 40	Bright 6-Turns	1.20	1.10	.90	.90	.88
200 44	Bright 6-Turns	.....	1.01	.96	.96	.....
300 15	Bright 5-Turns	.....	.....	.86	.86	.....
300 44	Bright 4.3-Turns	.....	.....	.81	.....	.79
300 44	Bright 6-Turns	.94	.87	.86	.86	.84
300 120	Rayflex 6-Turns	.....	.....	.93	.93	.....
600 30	Bright 5-Turns	.....	.84	.82	.82	.80

#### Rayflex Yarns

75 30	Rayflex	\$ ....	\$1.22	\$1.22	\$1.13	.....
100 40	Rayflex	.....	1.07	1.07	.99	.....
150 40-60	Rayflex	.....	.....	.85	.85	.81
200 75	Rayflex	.....	.....	.84	.84	.80
300 60-120	Rayflex	.....	.....	.75	.75	.73
450 120	Rayflex	.....	.....	.71	.71	.69
600 234	Rayflex	.....	.....	.71	.71	.69
900 350	Rayflex	.....	.78	.71	.71	.69

#### Thick & Thin Yarns

150 40-90	Bright & Dull	\$ ....	\$ ....	\$1.18	\$ ....	\$ ....
200 75	Bright & Dull	.....	.....	1.08	.....	.....
300 120	Bright & Dull	.....	.....	.98	.....	.....
450 100	Bright & Dull	.....	.....	.92	.....	.....
490 120	Bright & Dull	.....	.....	.98	.....	.....
900 350	Dull	.....	.....	1.03	.....	.....
920 120	Bright & Dull	.....	.....	1.03	.....	.....

#### Colorspun Yarns

Denier	Type	Cones/Tubes Beams/Spools
75	Regular Strength	\$1.71
100	Regular Strength	1.35
150	Regular Strength	1.17
200	Regular Strength	1.14
300	Regular Strength	1.09
450	Regular Strength	1.05
600	Regular Strength	1.05
900	Regular Strength	1.05
300	High Strength	1.11
450	High Strength	1.06
900	High Strength	1.06
300	Regular Strength 5-Turns	1.19

#### Avicron Yarns

Denier	Filament	Cones/Tubes Beams/Spools
1800	100-200	\$1.68
2700	150-300-980	.65

#### Viscose Filament Yarns

The following material deposit charges are required:	
Metal Section Beams	\$170.00 each
Metal Section Beam Racks	75.00 each
Metal Tricot Spools—14" flange	30.00 each
21" flange	60.00 each
32" flange	150.00 each
Metal Tricot Spool Racks—14" flange	135.00 each
21" flange	100.00 each
32" flange	75.00 each
Wooden Tricot Spool Crates	20.00 each
Cloth Cake Covers	.05 each
Same to be credited upon return in good condition—freight collect.	

#### Celanese Corp. of America

##### Current Prices

Effective June 24

#### Viscose Rayon Filament Yarn Prices—Bright and Dull

Denier/Fil/Twist	Beams	Cones	Cakes
75/30/3	.....	1.10	.98
100/40/2Z	.97	.....	.....
100/40/3	.....	.96	.88
100/40/5	.....	1.02	.....
100/60/2Z	NS	.96	.....
100/60/3	.....	.98	.90
125/40/2Z	.....	.93	.....
125/40/3	.....	.94	.85
150/40/0	.....	.74 1/2	.....
150/40/2Z	NS	.81	.....
150/40/3	.....	.79 1/2	.76
150/40/5	.....	.90	.86
150/40/8	.....	.95	.91
150/90/0	NS	.77 1/2	.....
250/60/0	NS	.74	.....
250/60/3	.....	.80	.77
300/50/0	NS	.70	.....
300/50/2Z	.....	.72	.....
300/50/3	.....	.70 1/2	.69
450/120/0	NS	.67	.....

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U. S. A.  
Prices subject to change without notice.  
All previous prices withdrawn.  
Prices on unlisted items can be obtained upon request.  
Orders are subject to conditions of sale appearing on our acknowledgments of orders.

#### E. I. du Pont de Nemours & Co.

##### Textile Fibers Dept. Current Prices

Effective with orders March 11, 1959

#### Bright and Dull

Den.	Fil.	Turns/ Inch Up to	Textile "Cordura"	Beams	Cones (A) Tubes	Cakes
40	20	3	Textile "Cordura"	.....	\$1.97	\$1.92
50	20	3	Textile "Cordura"	.....	1.70	1.67
50	20	3	Textile "Cordura"	.....	1.72	1.72
50	35	3	Bright	.....	1.02	1.02
75	10	3	Bright	.....	1.14	1.02
75	30	3	Bright	.....	.....	.90
100	15	3	Bright	.....	.....	.90
100	40	3	Bright	.98	.98	.90
100	60	3	Dull	.....	1.00	.92
125	50	3	Bright	.96	.96	.87
150	40	3	Bright	.82	.82	.78
150	60	3	Bright	.82	.82	.78
150	60	3	Textile "Cordura"	.....	.875	.845
150	90	3	Dull	.....	.83	.....
150	100	3	Dull	.....	.83	.....
300	50	2.5	Textile "Cordura"	.73	.73	.71
300	120	3	Textile "Cordura"	.74	.74	.72
450	72	3	Bright	.71	.69	.67
600	96	3	Textile "Cordura"	.72	.70	.67
600	240	3	Bright	.71	.69	.67
900	50	3	Bright	.71	.69	.67
900	144	3	Textile "Cordura"	.72	.70	.68
1165	480	3	Bright	.71	.69	.....
1800	100	3	Bright	.71	.69	.....
2700	150	3	Bright	.71	.69	.....

#### Thick and Thin

100	40	3	#7 Bright	1.42
150	90	3	#7 Bright	1.08
200	80	3	#7 Bright	1.08
450	100	3	#7 Bright	.92
1100	240	3	#60 Bright	1.03
2200	480	3	#60 Bright	.98

#### Monofil

150	1	3	Bright	1.35	1.35
300	1	3	Bright	1.15	1.10
600	1	3	Bright	.....	1.00

#### Plush

300	30	3	Dull	.85	.81
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(A) 2¢/lb. additional for cones less than 3¢.

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

\* "CORDURA" and "SUPER CORDURA" are Du Pont's registered trade-marks for its high tenacity rayon yarn.

#### Industrial Rayon Corp.

Effective June 29, 1959

#### Continuous Process Textile Yarns

Denier	Fila- ment	Turns per In.	Type	Beams	2.8# Cones	4.4# Cones Tubes	Skeins
150	40	2.5"S"	Bright	.82	.82		.91
200	20	2.5"S"	Bright	.81	.81		.90
300	44	2.5"S"	Bright	.73	.73		.79
450	60	2.0"S"	Bright	.69		.69	.76
600	90	1.5"S"	Bright	.69		.69	.76
900	50	2.0"S"	Bright	.69		.69	.76
900	150	2.0"S"	Bright	.69		.69	.76
1100	480	2.0"Z"	Bright extra strong	.66		.66	.73

Standard skein lengths—150 denier, 16,300 yards; 300 denier, 6,500 yards; 450 denier, 4,400 yards; 600 denier, 3,200 yards; 900 denier, 2,100 yards; 1100 denier, 2,000 yards.

Lustré 2.4 is semi-dull.

Prices are subject to change without notice.

#### Strawn Yarns

Denier	Fila- ment	Turns per In.	Type	4.4# Cones	Spools and Tubes	Skeins
150	1	0	Bright and Dull	1.25	1.30	1.35
150	1	2	Bright and Dull	1.25	1.30	1.35
300	1	0	Bright and Dull	1.10	1.15	1.20
300	1	2	Bright and Dull	1.10	1.15	1.20
450	1	0	Bright and Dull	1.00	1.05	1.10
450	1	2	Bright and Dull	1.00	1.05	1.10
1250	1	0	Bright and Dull	1.00	1.05	1.10
1250	1	2	Bright and Dull	1.00	1.05	1.10

Tubes—5¢ per pound over cone prices.

Skeins—10¢ per pound over cone prices.

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points in continental United States except Alaska.

Prices are subject to change without notice.

#### North American Rayon Corp.

##### Current Prices

Prices Effective July 3, 1959

Denier/Filament	Twist	Knitting* Cones	No Twist Knitting Cones	Weaving Cones, Velvet Cones, Beams, Untreated Tubes**	Cakes
Normal Strength Yarns—NARCO	.....	.....	.....	.....	.....
75/30	3.5	.....	.....	1.14	1.02
75/30	7	.....	.....	1.27	.....



**Colin C. Campbell** has been appointed assistant export manager for the foreign sales division of Celanese Corp. of America.

**Francis J. Potter** has rejoined the Duplan Corp. and has been assigned to the company's Winston-Salem sales division.

**Kirk P. Ferguson** has been named manager of the New York district office of the Du Pont Co.'s dyes and chemicals division, succeeding **Sidney M. Conn.**



**S. H. Rose**

**Stanley H. Rose** has been appointed manager of merchandising and product development for apparel and home furnishings at American Viscose Corp., succeeding **Samuel B. Lippincott.**

**Burch Ault** has been appointed president of Burlington Industrial Fabrics Co., succeeding **Charles M. Travis.**

**Sven I. Thoolen** has been appointed general manager of California Cotton Mills Co.



**J. R. Sherrill**

**John R. Sherrill** has been appointed director of marketing in the fibers division of Eastman Chemical Products, Inc. Reporting to Mr. Sherrill will be **C. F. Earnhardt**, sales manager of acetate fiber sales; **W. T. Jackson**, sales manager of Kodol fiber sales, and **A. A. Owen**, sales manager of Verel fiber sales, assisted by **J. Wilson Malloy.**

**Charles H. Amidon, Jr.** has been appointed chief engineer for Foster Machine Co.

**Dr. C. Eugene Coke** has been appointed director of research and development for Hartford Fibres Co., division of Bigelow-Sanford Carpet Co., Inc.

**Nicolaas C. Van Vonno** has been named president of Hostawax Co., division of Hostachem Corp.

**J. H. Stursberg**, president of Livingston Worsted Mills, has been named chairman of the executive committee of the board of directors of the National Association of Wool Manufacturers, succeeding **John H. McGowan**, Wyandotte Worsted Co. Mr. McGowan continues as a vice president and committee member.

**Edward Maslanka** has been reassigned to National Starch and

Chemical Corp's southeastern division and **Joseph J. Ducharme** replaces Mr. Maslanka as sales representative in the New England territory.

**C. M. Ehrhardt** has been elected to the newly-created post of director of management service for Saco-Lowell Shops.

**James Yuill** has been appointed president and director of Forstmann, Inc.

**C. Leonard Johnson** has been appointed sales manager of Synthane Corp.

**MILTON**  
**WARP BEAMS**  
**REDUCE**  
**SECONDS**  
 in the weave room

Loose and slack end problems are minimized by Milton's true-running, easily adjustable, heavily ribbed flanges (cast iron or aluminum alloy). They're locked to the barrel with a pressure block threaded on the inner surface, preventing damage to barrel threads. Flange diameters: 12" to 28", in 2" increments.

Beam barrels are furnished in standard or extra heavy type with Milton's exclusive stud construction providing easy inter-changeability of attachments and simplifying shaft replacement.

Milton Warp Beams for broad, narrow fabric, ribbon, velvet, carpet and special looms are backed by over thirty years of rugged service . . . furnished to users' specifications for Draper and Crompton & Knowles looms. Write for free bulletin.



Thirty Years of Dependability in Yarn Beams  
**MILTON MACHINE WORKS, INC.**  
 DESIGNERS • ENGINEERS • MANUFACTURERS  
**MILTON • PENNA.**

75/30	12	1.35		
75/30	15	1.37		
75/30	20	1.40		
100/40/60	3.5	.98	.90	
100/40	12	1.22		
125/25/60	3	.96	.87	
150/42	0			
150/42/60	3	.80 1/2	.74 1/2	
300/75	0		.82	.78
300/75	3	.73	.71	.73
900/46	2.5	.69	.69	.71
1800/91	2.5	.69	.69	

\* Oiled Cones \$.01 per pound extra for Graded Yarns only.  
 \*\* 1 lb. Tubes \$.02 per pound extra for Graded Yarns only.  
 X Special Quality Marquissette Tubes and Cones.  
 Terms: Net 30 days, F.O.B. shipping point, minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight to Memphis, Tennessee allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point.  
 Prices subject to change without notice.

## TRIACETATE

Celanese Corp. of America

Current Prices Arnel Yarn Prices  
 Bright & Dull

Effective August 19, 1958

Denier and Filaments	Cones	Beams	Thick and Thin Cones
55/WKZ/15	\$ ....	\$1.16	\$ ....
55/2Z/15	1.32	1.33	....
75/WKZ/20	....	1.16	....
75/2Z/20	1.21	1.22	....
100/2Z/26	1.14	1.15	....
150/2Z/40	.95	.96	....
200/2Z/32	.92	.93	1.25
300/2Z/80	.87	.88	1.23
450/2Z/120	.86	.87	....
600/2Z/160	.85	.86	1.21

3 to 5 Turns on Cones or Beams—\$.02 Additional  
 Premium for Black Arnel—\$.25 Per Pound  
 Premium for Navy Arnel—\$.37 Per Pound  
 Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.  
 Prices subject to change without notice.  
 All previous prices withdrawn.  
 Note: Prices on unlisted items can be obtained upon request.  
 Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

## CELLULOSIC HIGH TENACITY YARN and FABRIC

American Enka Corp. Effective December 19, 1958  
 Tempra (High Tenacity)

Denier	Elongation	Beams & Cones
1100/480	Low	.62
1230/480	High	.62
1650/720	Low	.56
1820/720	High	.55
2200/960	High & Low	.55

\* 1100/720 Low .66  
 \* 1650/1100 Low .60  
 \* 2200/1440 Low & High .57

Terms: Net 30 days, f.o.b. Enka, North Carolina, or Lowland, Tennessee; minimum freight allowed to first destination east of the Mississippi River.

\* Tyrex certified viscose yarn.

American Viscose Corp.

Effective March 26, 1959

Revised July 1, 1959

Tyrex  
 Tyrex Certified Viscose Tire Yarn

Denier	Filament	Twist	Beams	Cones
1100	980	0	.66	.66
1100	980	Z	.66	....
1650	980	0	.60	.60
1650	980	Z	.60	....

Tire Fabric Made with Tyrex Certified Viscose

Denier	Filament	Carcass	Top Ply	Breaker
1100	980/2	.78	.78	....
1650	980/2	.69	.70	.725

\* Factor determined by dividing total ends by picks.  
 Tyrex is a certification mark of Tyrex Inc. for Viscose Tire Yarn and Cord.

Rayon Tire Yarn

Denier	Filament	Twist	High Strength	Tire Yarn	Super "Rayflex"
1100	490	Z	....	.62	110-210-310 120-220-320
1100	980	0-Z	....	.65	.66
1150	490	Z	.62	....	....
1230	490	Z	.62	....	....
1650	980	Z	.56	.56	.60
1875	980	0	.56	.56	.60
2200	980	Z	.56	.55	.57
3300	1960	0	....	.57	.57

High Strength available on cones — tubes — beams.

## Tire Yarn and Super "Rayflex"

0 twist — Available on cones, beams or 10# tubes.  
 Z twist — Available on beams.

## Sewing Thread

1100/980 Super "Rayflex"	0-Z	Cones	.63
1780/980 Super "Rayflex"	0-Z	Cones	.58

Also available in colors at .07 premium.  
 All yarns sold "Not Guaranteed for Dyeing".

## Rayon Tire Fabric

1100	490	Tire	.74	.74	.74
1100	980	Super-110-210-310	.77	.77	.77
1100	980	Super-120-220-320	.78	.78	.78

\* Factor determined by dividing total ends by picks.  
 Cord on cones in regular Tire Yarn twists same as fabric prices.  
 Other twist combinations — prices quoted on request.  
 When supplied, yarns and cords in special packages take premiums indicated.

10.5 oz. Wardwell tubes	....	.09
1.5 lb. Regular Braider tubes	....	.05
Adhesive Dipped yarn	....	.05

The following deposit charges are made on invoices.  
 Beams ..... \$55.00 each  
 Crates (Metal) ..... 75.00 each  
 Fabric Shell Rolls ..... 3.50 each  
 Same to be credited upon return in good condition — freight collect.

## Rayon Tire Yarn and Fabric

Terms: Net 30 days. Seller to select and to pay transportation charges of common and contract carrier except when shipment moves West of Mississippi River in which event only the actual cost of transportation to the Mississippi River crossing based on the lowest published freight rate, shall be allowed. Title to pass when merchandise is delivered to consignee. Transportation allowance based on lowest published volume rate shall be granted if merchandise is transported from shipping point in vehicle owned or leased and operated by buyer and title to pass when merchandise is delivered to same.  
 Prices subject to change without notice.

## Celanese Corporation of America

Effective December 27, 1955

## Fortisan Yarn Prices

Denier	Packages	Natural	Black
30/2.5/40	2 lb. Cones	\$3.00 lb.	\$3.35 lb.
60/2.5/80	4 " "	2.40 "	2.75 "
90/2.5/120	4 " "	2.25 "	2.60 "
120/2.5/160	4 " "	2.05 "	2.40 "
150/2.5/180	4 " "	1.95 "	2.30 "
270/2.5/360	4 " "	1.85 "	2.20 "
300/2.5/360	4 " "	1.85 "	2.20 "

80/2.5/80 Olive Green—Spun Dyed—OG106 4 lb. Cones 3.50 lb.  
 Terms: Net 30 days. Shipments prepaid to any destination in U.S.A.  
 Prices subject to change without notice.

All previous prices withdrawn.  
 Prices on unlisted items can be obtained upon request.  
 Orders are subject to conditions of sale appearing on our acknowledgments of orders.

## Fortisan-36 Rayon Yarn Bright

Denier and Filament	Twist	4# cones	8# cones	Tubes	Beams
270/280	0.8Z	\$2.30			
300/280	0.8Z	\$2.05			
300/280	3Z	\$2.20			
400/400	0.8Z	\$1.75			\$1.70
400/400	0			\$1.75	
800/800	0.8Z	\$1.25	\$1.25		\$1.20
800/800	3Z	\$1.40			
800/800	0			\$1.25	
1600/1600	0.8Z	\$1.15	\$1.15		\$1.10
1600/1600	2 1/2 Z	\$1.30			
1600/1600	0			\$1.15	

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A.  
 Prices subject to change without notice.  
 All previous prices withdrawn.  
 Prices on unlisted items can be obtained upon request.  
 Orders are subject to conditions of sale appearing on our acknowledgments of orders.

## E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

Effective with orders February 26, 1959

"Super Cordura"™

Den Fil	Turns/in	All Packages
1100-720	2	\$6.66
1200-720	2	.66
1330-960	2	.63
1600-960	2	.60
1650-1100	2	.60
1800-1100	2	.60
2200-1440	2	.57
2400-1440	2	.57

Terms: Net 30 Days.  
 Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.  
 \* "CORDURA" and "SUPER CORDURA" are DuPont's registered trade-marks for its high tenacity rayon yarn.


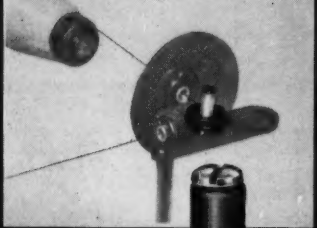
## Industrial Rayon Corporation

Effective March 1, 1959

## Unbleached Bright High Tenacity Yarns

Denier	Filament	Turns per Inch	Beams	4.4# Cones
1100	480	2.0 "Z"	.62	.62
1650	720	2.0 "Z"	.56	.56

*Accurate*

Yarn is under perfect tension from a central location. One dial adjustment changes tension uniformly at all tension stations.

The Lindly Electrotense:  
Simple, compact, inexpensive.  
Accurately controls yarn tension from zero to about 20 grams.

**DIAL CONTROL  
of YARN TENSION**

## at Any Number of Stations!

The Lindly ELECTROTENSE is the new, inexpensive, electro-mechanical way to control yarn tension from almost zero to about 20 grams. A turn of a single, centrally located dial applies desired tension evenly and simultaneously at all tension stations.

### What are the advantages?

The Lindly ELECTROTENSE permits easy, instant change of yarn tension. It results in more uniform beams, more yarn per warp beam, less maintenance and machine down-time, fewer broken ends and better cloth.

GET THE FULL FACTS ON THIS NEW TIME-SAVING, QUALITY-IMPROVING, COST-CUTTING LINDLY SYSTEM. WRITE, WIRE OR PHONE TODAY!

It Pays to Know  the Lindly Count

**LINDLY & COMPANY, INC.**  
248 HERRICKS ROAD  
MINEOLA, NEW YORK



J. H. Richardson

James H. Richardson has been elected to the board of directors of Draper Corp., succeeding Claude F. Snider who has retired. Mr. Richardson will fill the position of treasurer.

Robert J. Ryan has been elected vice president of finance and Hans Fiedler, vice president of sales at Textile Machine Works. In the same company, Paul G. Krott has been made assistant manager of the Wire Products Division and Clark Miller succeeds Mr. Krott as superintendent of the division.



R. C. Baker

Raymond C. Baker has become assistant to the president of the Man-Made Fiber Producers Association, Inc.

C. Perry Clanton has resigned from his position with Saco-Lowell Textile Machinery Division.

Dr. William L. Hyden has resigned from his duties with Du Pont where he has been closely identified with research on cellophane and textile fibers for a good part of his 32 years with the company. He is expected to begin teaching this fall at Belmont College, where he has been appointed professor of chemistry.

### Deaths

Henry C. Ball, 61, executive vice president of the Tufted Textile Manufacturers Association.

E. J. Schellenberg, president of Atwater Throwing Co. Mr. Schellenberg died of a heart attack.

Dr. George Thomson, 60, assistant director of Fabric Research Laboratories, Inc.



ALSO  
PACKED IN

**CONVENIENT  
GREASE GUN  
CARTRIDGES**

Lubriplate No. 630-2 is a high temperature, extreme pressure, water-repellent, grease type lubricant. Ideal for the general lubrication of Industrial, Automotive, Construction, Farm and Marine Equipment. Lubriplate Grease Gun Cartridges provide an easy, quick, economical means of application. Prevent the waste and mess of hand filling. Packed 10 Cartridges in a handy carrying carton.

**REGARDLESS OF THE SIZE AND  
TYPE OF YOUR MACHINERY,  
LUBRIPLATE LUBRICANTS  
WILL IMPROVE ITS OPERATION  
AND REDUCE MAINTENANCE**

For nearest LUBRIPLATE distributor see Classified Telephone Directory. Write for free "LUBRIPLATE DATA BOOK"... a valuable treatise on lubrication. LUBRIPLATE DIVISION, Fiske Brothers Refining Company, Newark 5, N. J. or Toledo 5, Ohio.



2200	1000	2.0 "Z"	.55	.55
3300	1440	2.0 "Z"	.55	.55
4400	2000	2.0 "Z"	.55	.55

Type 400 prices are 4¢ more.

Terms: Net 30 days f.o.b. point of shipment, title to pass to buyer on delivery of goods to carrier. Domestic transportation charges allowed at lowest published rate to all points in continental United States except Alaska.

PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

### North American Rayon Corporation

Super Super High Strength Continuous Yarn Type 710		Cones	Beams
1100/720	1.6Z	.66	.66
1650/720	2.0Z	.60	.60

Tire Cord Fabrics Super Super High Strength Type 710		Rolls
1100/720		.78
1650/720		.69W

Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station East of the Mississippi River. To points West of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold f.o.b. delivery point.

## CELLULOSIC STAPLE & TOW ACETATE

### Celanese Corp. of America

Current Prices

Effective March 2, 1959

#### Staple

(Most Deniers Available in Bright or Dull Luster)

Celanese Acetate Staple	
3, 5.5 & 8 Denier (Regular Crimp, Type HC, Type D)	\$ .36
2, 12 & 17 Denier (Regular Crimp, Type HC, Type D)	.37
35 Denier	.38
50 Denier	.40
Type F—5.5 & 8 Denier	.35
Type F—12 & 17 Denier	.36
Type K—(Available under Celanese License Agreement)	.39
5/8" to 1 1/8" length (All Deniers)	.03 (Premium)
35 Denier Flat Filament Acetate	.40
Non-Textile Acetate Fibers	.29*

#### Tow (Celatow)

3, 5.5 & 8 Denier	\$ .37
2, 12 & 17 Denier	.38
35 Denier	.40
35 Denier Flat Filament Acetate Tow	.42
50 Denier	.42

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

\* No transportation allowed (F.O.B. shipping point.)

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

## CROSS-LINKED

### Courtaulds (Alabama) Inc.

Effective April 14, 1959

#### Corval™

Man-made, cross-linked, cellulosic staple, Bright and Dull, 1 1/2, 3 and 5 1/2 denier	\$ .40 per lb.
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#### Topel®

Man-made, cross-linked, cellulosic staple, Bright and Dull, 1 1/2, 3 and 5 1/2 denier	\$ .37 per lb.
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Terms: Net 30 days f.o.b. LeMoyne, Alabama; Minimum transportation allowed to points in U.S.A. east of Mississippi River.

## RAYON

### American Viscose Corp.

Current Prices

#### Rayon Staple

	Bright and Dull
Regular	\$ .33
"Viscose 22"	.33
Extra Strength	
1.0 Denier	.36
"Viscose 32A"	.36
"Avisco XL"	
1.0 Denier	.42
1.5 & 3.0 Deniers	.39
"Avisco Crimped"	
1.25 Denier	.36
3.0 & 5.5 Deniers	.34
8.0 & 15.0 Deniers	.35
"Avisco Super L"	
8.0, 15.0 & 22.0 Deniers	.36

## COLORSPUN STAPLE

1.5 Denier 1 9/16"

Color	Code	Price
Sea Foam	517	47¢
Spun Gold	614	47¢
Cascade	419	42¢
Silver Gray	208	42¢
Bridal Rose	710	42¢
Pale Pink	708	42¢
Rosewood	635	47¢

Bisque	803	42¢
Champagne	833	42¢
Sandalwood	802	42¢
Apple Red	700	58¢
3.0 Denier 2"		
Mint Green	505	47¢
Pale Pink	708	42¢
Bisque	803	42¢
Sandalwood	802	42¢
Nutmeg	801	47¢
Gold	603	47¢
Turquoise	408	42¢
Wine	304	59¢
Gray	208	42¢
Spice Brown	800	47¢

### Rayon Tow

Grouped Continuous Filaments (200,000 Total Denier)	
1.5, 3.0 & 5.5 Denier Per Filament	.35
9.0 Denier Per Filament	.37

Terms: Net 30 days.

### American Enka Corp.

Current Prices Effective 7/1/59

#### Rayon Staple

##### Regular

	Brt.	Dull
1.5 and 3 denier	\$ .33	\$ .33
Crimped		
6.5 denier	.34	....
8 denier	.35	....
15 denier	.35	.35

### Celanese Corp. of America

Current Prices

Effective May 1, 1959

#### Rayon Tow

	Bright & Dull
1.5, 3, 5.5 D.P.F.	.35
Total denier 200,000	
8 D.P.F.	.37
Total denier 207,000	

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. East of Mississippi River. Transportation prepaid to any U.S.A. destination West of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

### Courtaulds (Alabama) Inc.

Effective April 14, 1959

#### Rayon Staple

	Bright	Dull
1 1/2 and 3 denier	\$ .33	\$ .33
Available in 1 1/2", 1-9/16" and 2"		
Crimped Rayon Staple		
3 and 5 1/2 denier	\$ .34	\$ .34
Available in 1-9/16" and 3"		
3 denier		.34
Available in 2"		

#### Coloray® Solution Dyed Rayon Staple

Color	Price per lb.
Black	39¢
Silver Grey	41¢
Mocha	41¢
Tan	41¢
Medium Brown	41¢
Aqua	42¢
Rose	42¢
Dawn Pink	42¢
Ecu	42¢
Dark Brown	42¢
Slate Grey	45¢
Sulphur	46¢
Nugget	46¢
Light Blue	46¢
Crystal Blue	47¢
Apple Green	47¢
Sage	47¢
Peacock Blue	48¢
Medium Blue	50¢
Indian Yellow	51¢
Dark Blue	51¢
Hunter Green	51¢
Turquoise	52¢
Malachite Green	52¢
Red	58¢

In addition to the above, Black is also available in:  
1 1/2 den. 1 1/2" 5 1/2 den. 3"  
3 den. 1 1/2" 5 1/2 den. 6"  
3 den. 1-9/16"

Terms: Net 30 days f.o.b. LeMoyne, Alabama; Minimum transportation allowed to points in U.S.A. east of Mississippi River.

### The Hartford Fibres Co.

Div. Bigelow-Sanford Carpet Co., Inc.

#### Rayon Staple

Effective November 3, 1958

REGULAR	1.5 denier Bright	1 9/16", 2"
VISCALON 66 (Crimped)		.33
	8 denier 3" Bright	.35
	15 denier 3" Bright	.35
	15 denier 3" Dull	.35

"KOLORBON"—Solution Dyed Rayon Staple—3" and 6"



### Dacron Fall Suits

Palm Beach Co. is producing a broad line of blended suits for fall for the first time. The fall suits, in 10 and 10½-ounce blends of 55/45 Dacron-wool and 70/30 wool-Orlon will sell at \$27.97 for \$49.95 retail, and \$32.73 for \$59.50.

### Rondo Stretch Slipper

The Slipper Division of Robert Hosiery Mills has introduced a new specially-constructed stretch slipper, priced to retail at 69 cents. Offered under the name of Rondo Slippers, they are made to stretch to any foot size, and have an elastic "non-slip" band which assures snug fit and comfort. The "slippers" are trimmed with a bunny-tail Pom-Pom and available in six costume color combinations.

## ALLEN BEAM COMPANY

NEW BEDFORD, MASS.

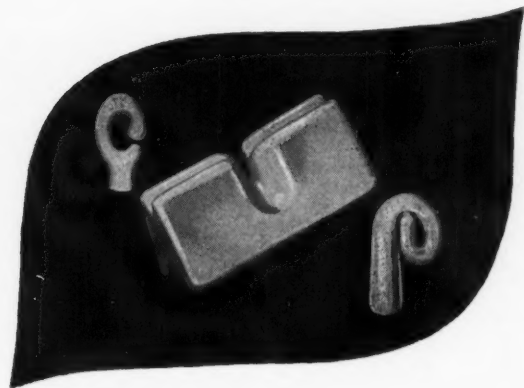
Beams for all makes of  
High Speed Warpers

LOOM BEAMS

Adjustable Loom Beam Heads

"Good Warps are made on Good Beams"

Nothing is impossible  
unless you have to do it yourself.



We who manufacture

### LAMBERTVILLE THREAD GUIDES

can't make a guide that lasts forever. We can and do produce long wearing dimensionally accurate guides that give the most economical and satisfactory service. Available in white or 'Durablu' finish. Write for catalog and samples.

**L**ambertville Ceramic  
AND MANUFACTURING COMPANY  
LAMBERTVILLE, NEW JERSEY

LAMBERTVILLE: YOUR GUIDE TO BETTER OPERATIONS!

AUGUST, 1959



## CONICAL RING



Pressure  
lubrication



Capillary  
lubrication

On certain operations, these rings really jazz up production. Cost? . . . in tune with economy. Installation? . . . our universal-fit design makes it easy as do-re-mi.

Send for "Conical Ring Circular"

**WHITINSVILLE (MASS.)**

**SPINNING**

Makers of Spinning and



**RING CO.**

Twister Rings since 1873

Rep. for the Carolinas & Va.: W. K. SHIRLEY, P.O. Box 406, Belmont, N. C.  
Rep. for Ala., Ga. & Tenn.: H. L. WILLIAMS, Box 222, West Point, Ga.

### NO YARN TRAPPING WITH BRAZED ALUMINUM TWO POUND TAKE-UP BOBBIN



New aluminum take-up bobbin with barrel and heads brazed together into a single unit prevents yarn trapping. Exceptional strength at price no higher than ordinary bobbins.

Write us today for full details.



**ALLENTOWN BOBBIN WORKS, INC.**

ALLENTOWN

PENNSYLVANIA

	8 Denier Bright	15 Denier Dull	15 Denier Bright
Cloud Grey	.46	.46	....
Sandalwood	.46	.46	....
Nutria	.46	.46	....
Sea Green	.46	.46	....
Mint Green	.46	.46	....
Champagne	.46	.46	....
Midnight Black	.46	....	.46
Gold	.49	.49	....
Turquoise	.46	.46	....
Melon	.49	.49	....
Capri Blue	.46	.46	....
Charcoal Grey	.46	.46	....
Coco	.47	.47	....
Sable	.48	....	.48
Tangerine	.66	....	.66
Chinese Red	.66	....	.66
Larkspur Blue	.46	.46	....
Royal Blue	.66	....	.66
Lemon Peel	.55	.55	....
Kelly Green	.55	.55	....
Bitter Green	.66	....	.66

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

## North American Rayon Corporation

Current Prices

Rayon Staple		Bright
Super High Tenacity		
No. 1 (Unshrunk)		
1, 1.5 & 3 deniers		.40
No. 2 (Feshrunk)		
1, 1.5 & 3 deniers		.40
Rayon Tow		
Super High Tenacity		
2200 denier, 1.0 and 1.5 D/F		57.5
4400 denier, 1.0 and 1.5 D/F		47.5

## TRIACETATE

Celanese Corp. of America

Current Prices

Effective June 7, 1957

(Most Deniers Available in Bright or Dull Luster)

Arnel Staple and Tow		Bright & Dull
Arnel Triacetate Staple		
2.5 Individual Denier		\$.55
5.0 Individual Denier		.55
Arnel Triacetate Tow		
2.5 Individual Denier		\$.60
114,000 Total Denier		
5.0 Individual Denier		.60
90,000 Total Denier or		
180,000 Total Denier		
Packaged on Ball Warps		

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.  
All previous prices withdrawn.  
Note: Prices on unlabeled items can be obtained upon request.  
Orders are subject to conditions of sale appearing on our acknowledgments of orders.

## NON CELLULOSIC YARN

### NYLON

Allied Chemical Corporation

Caprolan®

Effective April 15, 1959

Denier	Fila- ment	Turn/ In.	Twist	Type**	Package	1st Grade Price/Lb.
200	16	1 1/2	Z	B	Cone	\$1.49
840	136	1/2	Z	HBT	Aluminum Tube	1.20
840	136	1/2	Z	HBT	Beams	1.20
1050	56	1/2	Z	HB	Aluminum Tube	1.24
2100	112	1/2	Z	HB	Aluminum Tube	1.20
Heavy Yarn						
2100	408	0	O	HB	Paper Tube*	\$1.18
2500	408	0	O	HB	Paper Tube*	1.18
3360	544	0	O	HB	Paper Tube*	1.17
4200	680	0	O	HB	Paper Tube*	1.17
4200	224	0	O	HB	Paper Tube*	1.19
5000	816	0	O	HB	Paper Tube*	1.17
5800	952	0	O	HB	Paper Tube*	1.17
7500	1224	0	O	HB	Paper Tube*	1.16
10000	1632	0	O	HB	Paper Tube*	1.16
15000	2448	0	O	HB	Paper Tube*	1.16

Terms—Net 30 days.  
Prices subject to change without notice.  
All prices quoted F.O.B. Shipping Point.  
Following are invoiced as a separate item.  
Bobbins—45 cents each.  
Aluminum Tubes—40 cents each.  
Beams—\$220.00 each.  
Cradles for Beams—\$53.00.  
\* Paper Tubes non-returnable, no charge.  
\*\* Type is used to describe luster and tenacity  
Minimum transportation charges allowed and prepaid in continental United States, excluding Alaska.

B—Bright.  
H—High Tenacity.  
T—Heat Stabilized.

## American Enka Corporation

Enka Nylon Yarn Prices

Effective August 19, 1958

Den/Fil	Twist	Luster	Type	Tenacity Pkg.	Net Wt. Pkg.	Price/Pound
15 monofil	0.5Z	Semi-dull	9506	Normal Pirn	2 lb.	5.25 5.00
15 monofil	0.5Z	Semi-dull	9506	Normal Beam	....	5.36
15 monofil	0.5Z	Dull	9514	Normal Pirn	2 lb.	5.30 5.05
15 monofil	0.5Z	Dull	9514	Normal Beam	....	5.41
15/2	0.5Z	Semi-dull	9518	Normal Pirn	1 lb.	7.37 6.70
18/2	0.5Z	Semi-dull	9518	Normal Pirn	1 lb.	6.65 6.10
20 monofil	0.5Z	Semi-dull	9524	Normal Pirn	1 lb.	4.95 4.50
20/2	0.5Z	Semi-dull	9478	Normal Pirn	1 lb.	5.55 5.05
30/4	0.5Z	Semi-dull	....	Normal Pirn	....	2.62 2.42
30/6	0.5Z	Semi-dull	9464	Normal Pirn	2 lb.	2.36 2.21
40/8	0.5Z	Semi-dull	9448	Normal Pirn	2 lb.	2.01 1.91
40/8	0.5Z	Semi-dull	9448	Normal Beam	....	2.11
40/10	0.5Z	Dull	9502	Normal Pirn	2 lb.	2.06 1.96
40/10	0.5Z	Dull	9502	Normal Beam	....	2.16
50/13	0.5Z	Semi-dull	9528	Normal Pirn	2 lb.	1.91 1.76
70/32	0.5Z	Semi-dull	9622	Normal Pirn	2 lb.	1.71 1.66
100/32	0.5Z	Semi-dull	9652	Normal Pirn	2 lb.	1.65 1.60
200/16	0.6Z	Bright	9826	Normal Cone	4 lb.	1.49 1.44
200/16	0.5Z	Bright	9826	Normal Beam	....	1.54
200/34	0.6Z	Bright	9832	Normal Cone	4 lb.	1.49 1.44
200/34	0.5Z	Bright	9832	Normal Beam	....	1.54
260/16	0.6Z	Bright	9197	Normal Cone	4 lb.	1.49 1.44
260/34	0.6Z	Bright	9197	Normal Cone	4 lb.	1.49 1.44
520/32	0.6Z	Bright	9546	Normal Cone	4 lb.	1.39 1.29

Firms charged at \$.25 or \$.45 each, depending on type. Deposit refunded upon return of pirn in good condition. Cones are non-returnable. Beams and cradles are deposit carriers and remain property of American Enka Corporation.

Terms: Net 30 days. Minimum common carrier transportation charges will be prepaid and absorbed to the first destination in the continental United States. In prepaying transportation charges, the seller reserves the right to select the carrier used.

## The Chemstrand Corp.

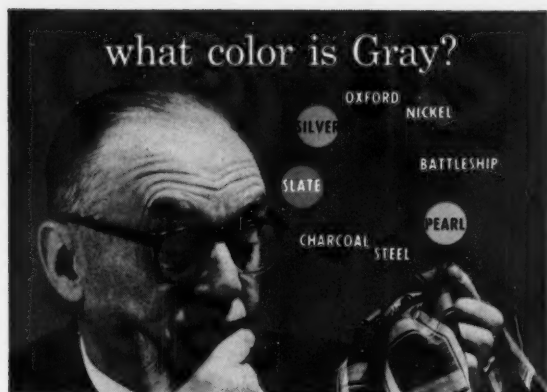
Current Prices

Effective June 2, 1958

Denier	Filament	Twist	Type*	Package	Standard Price/Lb.	Second Price/Lb.
10	1	O	SD	Bobbins	\$8.42	\$7.81
15	1	O	SD	Bobbins	5.25	5.00
15	1	O	SD	Spools	5.36	....
15	1	O	D	Bobbins	5.30	5.00
15	1	O	D	Spools	5.41	....
20	7	Z	D	Bobbins	2.96	2.61
30	10	Z	SD	Bobbins	2.36	2.21
30	10	Z	D	Bobbins	2.41	2.21
30	10	Z	HS	Bobbins	2.36	2.21
30	26	Z	SD	Bobbins	2.49	2.21
40	7	Z	SD	Bobbins	2.11	1.81
40	10	Z	SD	Bobbins	2.01	1.91
40	13	Z	SD	Bobbins	2.01	1.91
40	13	O	SD	Draw Wind	2.01	1.91
40	13	Z	D	Spools	2.11	....
40	13	Z	D	Bobbins	2.06	1.96
40	13	Z	D	Spools	2.16	....
50	17	Z	SD	Bobbins	1.91	1.76
50	17	Z	SD	Draw Wind	1.91	1.76
70	34	Z	SD	Bobbins	1.71	1.66
70	34	O	SD	Draw Wind	1.71	1.66
70	34	Z	SD	Spools	1.81	....
70	34	Z	B	Bobbins	1.71	1.66
70	34	O	B	Draw Wind	1.71	1.66
70	34	Z	D	Bobbins	1.76	1.66
70	34	Z	D	Spools	1.86	....
70	34	Z	HB	Bobbins	1.76	1.66
80	26	Z	SD	Bobbins	1.71	1.60
100	34	Z	SD	Bobbins	1.65	1.60
100	34	Z	SD	Spools	1.75	....
100	34	Z	HB	Bobbins	1.70	1.60
140	68	Z	SD	Bobbins	1.60	1.55
140	68	Z	SD	Spools	1.70	....
140	68	Z	B	Bobbins	1.60	1.55
200	34	Z	B	Bobbins	1.49	1.44
200	34	O	B	Draw Wind	1.49	1.44
210	34	Z	HB	Bobbins	1.49	1.44
210	34	O	HB	Draw Wind	1.49	1.44
210	34	Z	HB	Spools	1.54	....
210	34	Z	HB	Beams	1.54	....
260	17	Z	HB	Bobbins	1.59	1.54
260	17	Z	HB	Bobbins	1.49	1.39
260	17	Z	HB	Spools	1.54	....
420	68	Z	HB	Bobbins	1.39	1.29
520	34	Z	HB	Bobbins	1.39	1.29
630	102	Z	HB	Bobbins	1.39	1.29
780	51	Z	HB	Bobbins	1.39	1.29
840	140	Z	HB	Beams	1.20	1.15
840	140	Z	HB	Tubes	1.20	1.13
840	140	O	HB	Draw Wind	1.20	1.13
840	140	Z	RHB	Beams	1.20	1.15
840	140	Z	RHB	Tubes	1.20	1.13
1040	68	Z	SD	Tubes	1.24	1.14
1240	68	Z	HB	Tubes	1.24	1.14
1680	280	Z	HB	Tubes	1.12	....
2080	136	Z	SD	Tubes	1.20	....
15120	2520	Z	RHB	Tubes	1.16	....

\* Types: D—Dull; SD—Semi-dull; B—Bright; H—High tenacity.  
Bobbins are invoiced at 25¢ or 45¢ each, depending on type; tubes are invoiced at 40¢ each; spools invoiced at \$77.00 and \$95.00 depending on type; and beams and crates for beams are invoiced at \$220 and \$225 respectively.

Prices subject to change without notice.  
Freight prepaid within Continental United States and Puerto Rico.



*At ATLANTIC color specified is color delivered . . .  
assured by superior techniques and  
facilities acknowledged in the industry.*

### YARN DYEING

**Rayon • Nylon • Acetate • Stretch Yarns  
Cakes • Packages • Skeins**

Custom-matched colors. Large dye batches.  
Any degree of color fastness. Packaged as desired.

**PROMPT DELIVERY**

***Atlantic***  
**Rayon Corporation**

125 WEST 41st ST., NEW YORK 36, LONGACRE 3-4200  
PLANT: 86 CRARY ST., PROVIDENCE, R. I.

### Hi-Tenacity Rayon Yarn

Development of a new adhesive-finished high tenacity rayon yarn for reinforcing mechanical rubber goods has been announced by Du Pont. Identified as "Super Cordura" Type 272-F, the new yarn is said to offer important advantages in processing, performance and economies. In trade testing, Type 272-F has been given adhesion values greater than 20 pounds per inch in many types of rubber stocks, including GR-S, GR-N, and natural, thereby comparing favorably with values for cotton and resorcinol-formaldehyde (RFL) treated rayon. *For further information write the editors.*

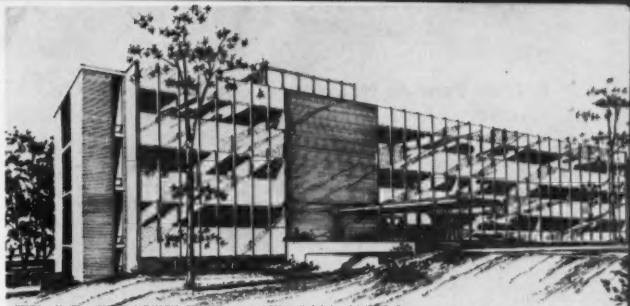
### Aluminum Reed Fabric

"Easternweave," a new low-cost drapery "fabric" made of tightly-woven aluminum reeds, has been introduced by Eastern Products Corp. The new drapery is said to cost less than conventional drapery material and will last many years. The new product, initially, will be produced in four colors—green, gray, fawn tweed and white. The manufacturer reports Easternweave can be cut with ordinary scissors and sewn with a regular needle, and it is weather and fireproof. The company is now using its new product in making roll-up shades and folding doors. *For further information write the editors.*

### Nylon Laundry Bags

Hartford Co. has introduced its "Self-Closing Ropeless Bag," a new nylon laundry bag for use in hospitals and institutions. The bag, designed for collecting and transporting soiled linen and clothing, requires no rope to keep it closed. The self-closing technique is accomplished by simply turning a flap on the top of the bag inside out. *For further information write the editors.*

AUGUST, 1959



### American Enka Office Building

American Enka Corp. has started construction of a three-story building at Enka, N. C. The new building will house personnel from the marketing division, now located in New York City, as well as corporate personnel in the finance and manufacturing divisions whose offices are now in the Enka plant. The building is scheduled for occupancy the end of the first quarter of 1960.

### Dope Dyed Dynel

Union Carbide has introduced Dynel acrylic fiber in four new solution dyed colors—green, marine blue, pewter and caramel—bringing to 11 the number of such colors on the market. The new colors are expected to speed acceptance of deep pile women's costs as a high fashion item, plus paving the way for style innovations in other apparel markets, including jersey, hosiery and work clothes. Solution dyed colored fibers are labeled Dynel 80 in the standard denier and Dynel 83 in the high shrink denier. They are priced at \$1.40 and \$1.45 per pound, respectively, with the exception of pewter, which sells at \$1.30 and \$1.35. *For further information write the editors.*



*Delivered immediately!*

**RAYON • NYLON • ACETATE YARNS**

graded and inferiors—all put ups.

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supported and unsupported

**THROWN YARNS**

**HELANCA\* STRETCH YARNS**

NYLON • DACRON



\* T. M.

125 WEST 41st STREET, NEW YORK 36, LONGACRE 3-4200

## E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

### Nylon Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
7-1	0	200	Bobbin	\$9.47	\$8.82
10-1	0	200	Bobbin	8.42	7.82
12-1	0	200	Bobbin	7.35	6.85
15-1	0	200	Beam	5.36	
15-1	0	200	Bobbin	5.25	5.00
15-1	0	680	Beam	5.41	
15-1	0	680	Bobbin	5.30	5.00
20-1	0	200	Bobbin	4.95	4.50
14-2	0.22	200	Bobbin	7.90	7.30
17-2	0.22	200	Bobbin	7.05	6.50
20-2	0.22	200	Bobbin	5.55	5.05
15-3	0.22	200	Bobbin	6.10	5.60
21-3	0.22	200	Bobbin	5.48	5.05
20-7	0.52	200	Bobbin	2.91	2.61
20-7	0.52	200	Bobbin	3.02	
20-7	0.52	680	Bobbin	2.96	
20-7	0.52	680	Beam	3.07	
20-20	0.72	209	Bobbin	6.00	
28-4	0.22	200	Bobbin	2.81	2.61
30-10	0.52	200	Bobbin	2.36	2.21
30-10	0.52	200	Tricot Bms.	2.46	
30-10	0.52	300	Bobbin	2.51	2.36
30-10	0.52	680	Bobbin	2.41	2.21
30-10	0.52	680	Tricot Bms.	2.51	
30-26	0.52	200	Bobbin	2.49	2.21
40-1	0	100	Bobbin	4.03	3.75
40-7	0.52	200	Bobbin	2.11	1.91
40-10	0.52	200	Bobbin	2.01	1.91
40-10	0.52	200	Tricot Beams	2.11	
40-13	0.52	200	Bobbin	2.01	1.91
40-13	0.52	200	Tricot Bms.	2.11	
40-13	0.52	400	Bobbin	2.13	1.90
40-13	0.52	680	Bobbin	2.06	1.96
40-13	0.52	680	Tricot Bms.	2.16	
40-34	0.52	200	Bobbin	2.21	1.81
50-10	0.52	200	Bobbins	2.11	1.76
50-17	0.52	100/200	Bobbin	1.91	1.76
50-17	0	200	Tubes	1.91	1.76
50-17	0.52	680	Bobbin	2.01	1.76
60-20	0.52	200	Bobbin	1.82	1.65
60-34	0.52	300	Bobbin	1.86	1.76
70-17	0.52	200	Bobbin	1.71	1.66
70-34	0	100	Tubes	1.71	1.66
70-34	0.52	100/200	Bobbin	1.71	1.66
70-34	0	105/205	Paper Tube	1.71	1.66
70-34	0	200	Tubes	1.71	1.66
70-34	0.52	280	Bobbin	1.71	1.66
70-34	0.52	300	Bobbin	1.76	1.66
70-34	0.52	680	Bobbin	1.76	1.66
70-34	0	680	Tubes	1.76	1.66
80-26	0.52	200	Bobbin	1.71	1.60
90-26	0.52	200	Bobbin	1.76	1.66
100-34	0.52	200	Bobbin	1.65	1.60
100-34	0.52	300	Bobbin	1.70	1.60
100-34	0	300	Tubes	1.70	1.60
100-34	0.52	680	Bobbin	1.70	1.60
100-50	0.52	200	Bobbin	1.71	1.60
110-50	0.52	200	Bobbin	1.71	1.60
140-68	0.52	100	Bobbins	1.60	1.55
140-68	0	200	Tubes	1.60	1.55
140-68	0.52	200	Bobbin	1.60	1.55
140-68	0	205	Tubes	1.60	1.55
140-68	0.52	300	Bobbin	1.65	1.55
200-20	12	100	Bobbin	1.49	1.44
200-34	0	100	Tubes	1.49	1.44
200-34	0.72	100	Bobbin	1.49	1.44
200-34	0	105	Tube	1.49	1.44
200-34	0.72	680	Bobbin	1.54	1.44
200-68	0.72	100/200	Bobbin	1.56	1.46
210-34	0	300	Tubes	1.49	1.44
210-34	0.72	300	Bobbin	1.49	1.44
210-34	0	305	Beam	1.54	
210-34	0	305	Tube	1.49	1.44
210-34	0.72	330	Bobbin	1.59	1.44
280-17	12	300	Bobbin	1.49	1.39
400-68	0.72	100	Bobbin	1.39	1.29
420-68	12	300	Bobbin	1.39	1.29
420-68	12	300	Beams	1.44	
520-34	12	300	Bobbin	1.39	1.29
630-102	0.72	300	Bobbin	1.39	1.29
780-51	12	300	Bobbin	1.39	1.29
800-140	0.52	100	Bobbin	1.39	1.29
840-140	0.52	300/700	Al. Tbs	1.20	1.13
840-140	0.52	300/700	Beam	1.20	
1680-280	0.52	300/700	Al. Tbs. & Beams	1.12	

#### Color-Sealed Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
30-10	0.52	140	Bobbin	\$2.71	\$2.56
40-13	0.52	140	Bobbin	2.36	2.16
70-34	0.52	140	Bobbin	2.06	2.01
100-34	0.52	140	Bobbin	2.00	1.95
100-34	0	140	Tubes	2.00	1.95
200-20	0.72	140	Bobbin	1.84	1.79
200-34	0.72	140	Bobbin	1.84	1.79
260-17	12	140	Bobbin	1.84	1.79

#### Industrial Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
840-140	0.52	707	Cone	\$1.13	
2520-420	0	700	Paper Tube	1.18	
4200-700	0	700	Paper Tube	1.17	
5040-840	0	700/707	Paper Tube	1.17	
7560-1260	0	700/707	Paper Tube	1.18	
10080-1680	0	700/707	Paper Tube	1.16	
15120-2520	0	700/707	Paper Tube	1.16	

These prices are subject to change without notice. Terms: Net 30 Days.

### Types

Type 100—Bright, normal tenacity.  
Type 105—Bright, normal tenacity, low shrinkage (5-7%)  
Type 140—Bright, color-sealed, black, normal tenacity.

Type 200—Semidull, normal tenacity.

Type 205—Semidull, normal tenacity, low shrinkage (5-7%)

Type 209—Semidull, normal tenacity, improved light durability

and dye light fastness.

Type 280—Semidull, normal tenacity, improved light durability

and dye light fastness.

Type 300—Bright, high tenacity.

Type 305—Bright, high tenacity, low shrinkage (5-7%)

Type 330—Bright, high tenacity, more heat & light resistant.

Type 400—Semidull, high tenacity.

Type 680—Dull, normal tenacity.

Type 700—Bright, high tenacity.

Type 707—Bright, high tenacity (over 8.5 gpd) cordage yarn.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid

our route within the continental limits of the United States, excluding

Alaska.

Following are invoiced as a separate item.

Bobbins—25 cents or 45 cents depending on type

Aluminum Tube—40¢ each

Draw Winder Tubes—\$ .70 or \$1.00 depending on type

Tire Cord Beams—\$220.00 each

Cradles for Tire Cord Beams—\$115.00 each

Tricot Beams—\$95.00 each

Cradles for Tricot Beams—\$130.00 each

(Beams and Cradles are deposit carriers and remain the property of

E. I. du Pont de Nemours & Co., Inc.)

## POLYESTER

### E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Dacron"™

Denier & Filament	Turns/Inch	Luster	Type*	Tubes 1st Gr.
30-14	0	Bright	55	\$2.71
30-20	0	Semidull	56	2.71
40-27	0	Semidull	56	2.31
40-27	0	Bright	55	2.31
40-27	0	Dull	57	2.36
70-34	0	Semidull	56	1.91
70-34	0	Bright	55	1.91
70-34	0	Bright	55	1.91
70-34	0	Dull	57	1.96
100-34	0	Semidull	56	1.84
140-28	0	Bright	55	1.79
150-34	0	Semidull	56	1.79
220-50	0	Bright	51	1.76
250-50	0	Bright	55	1.76
1100-250	0	Bright	51	1.50
1100-250	0	Bright	52	1.50

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight pre-

paid our route within the Continental limits of the U. S., excluding

Alaska.

### Yarn Types

\* Type:

Type 51—Bright, high tenacity.

Type 52—Bright, high tenacity.

Type 55—Bright, normal tenacity.

Type 56—Semidull, normal tenacity.

Type 57—Dull, normal tenacity.

Tubes are invoiced as a separate item at \$ .70 each.

\* "DACRON" is DuPont's registered trade-mark for its polyester

fiber.

## SARAN

### The National Plastics Products Company—

#### Fibers Division

#### Odonton, Maryland

41 East 42 Street, New York 17, N. Y. (Oxford 7-8996)

Current Prices:

#### CONTINUOUS FILAMENT

Type	Twist p. l.	Natural	Colors
1240/10	3	\$1.32	\$1.37
750/20*	3	1.75	1.80

\* For filter fabrics and other industrial purposes only.

F.O.B. Odonton, Maryland.

Terms: Net 30 days.

## NON CELLULOSIC STAPLE & TOW

### ACRYLIC

#### American Cyanamid Co.

#### Fibers Division

Effective Date: June 15, 1959

#### Cyanamid Acrylic Staple

	1st Grade Price (per pound)
2.0 Denier Bright and Semi-Dull	\$1.28
3.0 Denier Bright and Semi-Dull	1.18
5.0 Denier Bright and Semi-Dull	1.18
15.0 Denier Bright, Semi-Dull and Dull	1.01

Staple Lengths: 1 1/4", 2" 2 1/4", 3", 3 3/4", 4", 4 1/4".

Information provided on request for Deniers, Lengths and Lusters

not listed above.

Prices are subject to change without notice.

Terms: Net 30 Days.

F.O.B. Shipping Point—Minimum transportation allowed (Seller's

route and method) within the continental limits of the United States

excluding Alaska. If Buyer requests and Seller agrees to a route or

method involving higher than minimum rate, Buyer shall pay the

excess transportation cost.

Note: CRESLAN® is Cyanamid's registered trademark for certain of its acrylic fibers. Use of this trademark is authorized only on properly constructed fabrics, after they have been tested and approved by Cyanamid.



## The Chemstrand Corp.

Current Prices

"Acrilan"

Effective January 1, 1959

	Regular Acrilan	Acrilan 16
2.0 denier Semi-Dull and Bright staple & tow	\$1.24	\$1.24
2.5 denier Hi-Bulk Bright and Semi-dull staple and tow	1.18	1.18
3.0 denier Bright & Semi-dull staple & tow	1.18	1.18
5.0 denier Bright & Semi-dull staple & tow	1.18	1.18
8.0 denier Bright & Semi-dull staple	1.18	1.18
15.0 denier Bright & Semi-dull staple	1.01	1.05

Terms: Net 30 days. Freight prepaid within Continental U. S. & Puerto Rico.  
 \* "Acrilan" is Chemstrand's registered trademark for its acrylic fiber.

## The Dow Chemical Company

Textile Fibers Department

Current Prices

"Zefran"

2.0 denier Semidull & Bright—Staple only	\$1.33
3.0 denier Semidull & Bright—Staple only	1.28
6.0 denier Semidull & Bright—Staple only	1.20

Terms: Net 30 days.  
 Transportation Terms: F.O.B. shipping point—Freight prepaid our route to points east of the Mississippi River within the continental limits of the U. S., for points west of the Mississippi River crossing nearest purchaser's mill if shipped overland or port of exit of purchaser's choice east of the Mississippi River.

\* "Zefran" is Dow's registered trademark for its acrylic alloy fiber.

## E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Orlon" Acrylic Staple & Tow

Type 42	Staple Length	Tow Blds.	1st Grade
1.0 Denier Semidull	1 1/4, 1 1/2, 2, 2 1/2, 3	390M	\$1.28
2.0 Denier Semidull & Bright	1 1/4, 1 1/2, 2, 2 1/2, 3, 4 1/2	470M	1.28
3.0 Denier Semidull & Bright	1 1/4, 1 1/2, 2, 2 1/2, 3, 4 1/2	470M	1.28
3.0 Denier Semidull Color-sealed Black	1 1/4, 1 1/2, 2, 2 1/2, 3, 4 1/2	470M	1.63
6.0 Denier Semidull & Bright	1 1/2, 2, 2 1/2, 3, 4 1/2	470M	1.18
6.0 Denier Color-sealed Black	1 1/2, 2, 2 1/2, 3, 4 1/2	470M	1.55
4.5 Denier Semidull	1 1/2, 2, 2 1/2, 3, 4 1/2	470M	1.18
10.0 Denier Semidull & Bright	1 1/2, 2, 2 1/2, 3, 4 1/2	470M	1.18

Tow—Total Denier 470,000  
 Staple Lengths—1 1/4", 2", 2 1/2", 3", 4 1/2"  
 High Shrinkage Staple price as Regular Staple

Type 25 \$1.18  
 This product is designed for Cotton/Rayon System Spinning and is 2.5 denier, 1 1/4" semidull regular shrinkage staple.

Type 38—4.1 Denier—Semidull—320M Tow  
 This product can be dyed, stretched and cut to produce staple which will shrink as much as 38% when subjected to heat.

Type 39 \$94  
 This product is designed for woolen system spinning and is a blend of deniers (average 4.2) with a variable cut length.

Type 39A \$99  
 This product is designed for woolen system spinning and is a blend of predominantly fine deniers (average 2.4) with a variable cut length.

Type 39B \$94  
 This product is designed for woolen system spinning and is a blend of predominantly heavy deniers (average 6.5) with a variable cut length.

F.O.B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

## MODACRYLIC

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Effective November 3, 1958

"Verel" Staple and Tow

Deniers	Dull and Bright
2 and 3	\$1.02 per pound
5, 8, 12, 16, and 20	.92
24 denier	.97

Prices are subject to change without notice.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

\* "Verel" is a trade-mark of the Eastman Kodak Co.

## Union Carbide Chemicals Co.

Div. Union Carbide Corp.

Textile Fibers Dept.

Effective October 1, 1957

Dynel Staple & Tow

Natural Dynel	
3, 6, and 12 Denier, Staple and Tow	1.10 per lb.
24 Denier, Staple and Tow	1.05 per lb.
Dynel Spun with Light Colors:	
Blond or Gray	
3 and 6 Denier, Staple and Tow	1.30 per lb.
Dynel Spun with Dark Colors:	
Black, Charcoal, Brown, Caramel, Green, and Blue	
3 and 6 Denier, Staple and Tow	1.40 per lb.
Dynel Type 63 High Shrinkage (3 Denier only)	Add \$.05 per lb. to above prices

Prices are quoted f.o.b. South Charleston, W. Va.

## NYLON

American Enka Corp.

Effective August 19, 1958

Enka Nylon (Nylon Six Staple)

Denier	Luster	Length (Inches)	Price per pound
3	semi-dull	1 1/4, 1 1/2, 2, 2 1/2, 3, 4 1/2	\$1.28
6	bright	3, 4 1/2	1.28
8	bright	3, 4 1/2	1.15
10	bright	3	1.08
15	bright	3	1.08
15	semi-dull	3	1.08

Deniers and lengths of staple not listed above are available upon special request.

Terms: Net 30 days. Minimum common carrier transportation charges will be prepaid and absorbed to the first destination in the continental United States. In prepaying transportation charges, the seller reserves the right to select the carrier used.

## E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Nylon Staple and Tow

Denier	Type	Staple Lengths	Tow Bundle	1st. Grade	2nd Grade
1.5	200	1 1/4"—4 1/2"	None made	\$1.33	\$1.18
1.5	201	1 1/4"—4 1/2"	None made	1.35	1.20
2.2	420	1 1/4"—4 1/2"	None made	1.28	1.13
3.0	100/200	1 1/4"—4 1/2"	430M	1.28	1.13
3.0	101/201	1 1/4"—4 1/2"	455M	1.30	1.15
6.0	100	1 1/4"—4 1/2"	330M	1.28	1.13
6.0	101	1 1/4"—4 1/2"	345M	1.30	1.15
15.0	100	1 1/4"—6 1/2"	425M	1.08	.....
15.0	101	1 1/4"—6 1/2"	None made	1.10	.....
15.0	600	1 1/4"—6 1/2"	425M	1.10	.....
15.0	601	1 1/4"—6 1/2"	None made	1.12	.....

Staple lengths are restricted to the range shown opposite each denier above. The actual cut lengths within these ranges are as follows:

1 1/4, 1 1/2, 2, 2 1/2, 3, 4 1/2 and 6 1/2

Types

Type 100 Bright, normal tenacity, not heatset.  
 Type 101 Bright, normal tenacity, heatset.  
 Type 200 Semidull, normal tenacity, not heatset.  
 Type 201 Semidull, normal tenacity, heatset.  
 Type 420 Semidull, high tenacity, high modulus, no crimp.  
 Type 600 Dull normal tenacity, not heatset.  
 Type 601 Dull normal tenacity, heatset.

These prices are subject to changes without notice.

Terms—Net 30 Days.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

## Industrial Rayon Corp.

Effective August 18, 1958

Nylon Staple

1.5 denier	\$1.33 per lb.
2, 3 and 6 denier	1.28 per lb.
8 denier	1.15 per lb.
15 and 22 denier	1.08 per lb.

Bright, semi-dull, and full-dull. Required lengths.

## NYTRIL

B. F. Goodrich Chemical Co.

A division of The B. F. Goodrich Co.

DARVAN

Effective Nov. 21, 1958

Type	Not Crimp Set	Crimp Set
3, 4 1/2 and 6 Denier	\$1.45	\$1.50
1 1/4, 2 Denier	\$1.50	\$1.55

Pack in 100 Lb. Bales, Net  
 Staple lengths 1 1/4, 2, 3, 4 1/2  
 Tow—90,000 Total Denier  
 Bright, Semi-dull, Dull

(Deniers and lengths of staple not listed above are available upon special request.)

Terms: Net 30 Days.

F.O.B. Shipping Point (Avon Lake, Ohio) Minimum freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if overland, or port of exit of purchaser's choice east of the Mississippi River.

## POLYESTER

Beaunit Mills Inc.

"Vycron"

Polyester P-23 (Semi-Dull)

Current Prices

Staple	Denier	Cut	Per Lb.
	1.5	1 1/4"	\$1.36
	3.0	2"	1.36

(\* Can be cut to other lengths when desired).

Tow for Converters	1.5 den.	1.36
(Tow Bundle 200,000 Den.)	3.0 den.	1.36

Tow Yarn for Direct Spinners	1.5 den. (1680/1120)	1.45
	1.5 den. (3360/2240)	1.36
	3.0 den. (3360/1120)	1.36

# Coarse Denier Yarns, No-Twist Tubes

1.5 Denier	3.0 Denier	
420/280	420/140	1.65
840/560	840/280	1.60
1260/840	1260/420	1.50
1680/1120	1680/560	1.45
3360/2240	3360/1120	1.36

## E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

### "Dacron" \* Staple and Tow

Denier	Luster	Type*	Length	Tow Bundle	1st Gr.
1.25	Semidull	54	1 1/4"-3"	None made	\$1.36
1.5	Semidull	64	Tow only	550M	1.41
1.5	Semidull	54	1 1/4"-3"	550M	1.36
3.0	Semidull	64	1 1/4"-4 1/2"	450M	1.41
3.0	Semidull	54	1 1/4"-4 1/2"	450M	1.36
3.0	Semidull	61	1 1/4"-4 1/2"	None made	1.36
4.5	Semidull	64	1 1/4"-4 1/2"	450M	1.36
4.5	Semidull	54	1 1/4"-4 1/2"	450M	1.31
6.0	Semidull	64	1 1/4"-4 1/2"	450M	1.36
6.0	Semidull	54	1 1/4"-4 1/2"	450M	1.31
6.0	Semidull	61	1 1/4"-4 1/2"	None made	1.31

\* Type:

Type 54—Semidull, Normal Tenacity.

Type 61—Industrial Staple Having 45% Shrinkage, Not Intended for Dyeable Uses.

Type 64—Pill Resistant more Dyeable Staple Primarily for Suiting Fabrics.

F. O. B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

## Eastman Chemical Products, Inc.

Tennessee Eastman Co. Effective September 15, 1958

### "Kodel" \*\*

1 1/2 denier	\$1.60
3 and 4 1/2 denier	1.50

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

## VINYON

American Viscose Corp. Effective October 1, 1956

### Avisco Vinyon Staple

3.0 denier	1/4" unopened	\$ .80 per lb.
3.0 "	1 1/4" unopened	.80 per lb.
3.0 "	1 1/4" opened	.90 per lb.
3.0 "	2" opened	.90 per lb.
3.0 "	3" unopened	.80 per lb.
5.5 "	1" opened	.90 per lb.
5.5 "	3 1/2" opened	.90 per lb.
5.5 "	3 1/2" unopened	.80 per lb.

Terms: Net 30 days.

## SARAN

The National Plastics Products Company—

Fibers Division

Odenton, Maryland

The Hall Company (Selling Agent)

41 East 42 Street, New York 17, N. Y. (Oxford 7-8996)

Current Prices:

### Saran Staple

Type	Denier	Natural	Colors
2N	22	\$0.70	\$0.75
2N	16	.74	.79
3Q*	22	.63	.67

In any staple length 1 1/4 to 6". Also 45 denier, 7" cut.

\* For carpets and industrial fabrics.

F.O.B. Odenton, Maryland.

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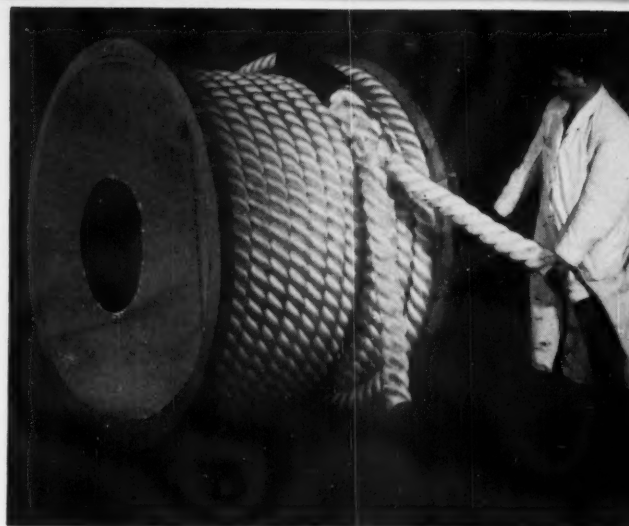
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In all, the rope is 720 feet long and measures 12 inches in circumference. It weighs 3,100 lb. The rope called for a staggering amount of nylon filament—no less than 1 1/2 million miles, which would girdle the earth more than 60 times. Weight of the filament would make 100,000 pairs of 15-denier nylon stockings.

The rope has been made for Shell Tankers Ltd., and will be used for salvage operations on Lake Maracaibo, the vast underwater oilfield in Venezuela.

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## WEAVING SPECIALIST

Large synthetic fiber producer has attractive opening in its Marketing Division for a textile graduate with minimum of five years experience. Must know all phases of textile processing from fiber or yarn to woven fabric, including fabric design and technology and fabric development.

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Modern Textiles Magazine  
303-5th Ave., NYC.

## Calendar of Coming Events

Sept. 9—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.  
 Sep. 10-11—Corded Yarn Association annual convention. The Cloister, Sea Island, Ga.  
 Sep. 10-11—Fiber Society Inc. meeting. Princeton, N. J.  
 Sep. 11-12—Society Plastics Industry Midwest Section conference. French Lick Sheraton Hotel, French Lick, Ind.  
 Sep. 12-21—3rd International Textile Exposition. Milan, Italy.  
 Sep. 17-18—Chattanooga Yarn Association annual outing. Chattanooga, Tenn.  
 Sep. 17-18—Combed Yarn Spinners Association annual convention. The Cloister, Sea Island, Ga.  
 Sep. 18—AATCC Northern New England Section outing. Wachusett Country Club, West Boylston, Mass.  
 Sep. 23-24—Northern Textile Association annual meeting. Wentworth-By-The-Sea, Portsmouth, N. H.  
 Sep. 25—AATCC Western New England Section meeting. Blake's Restaurant, Springfield, Mass.  
 Sep. 28-29—American Gas Association textile processing symposium. Sedgefield Inn, Greensboro, N. C.  
 Oct. 1-2—Society Plastics Industry New England Section conference. Wentworth-by-the-Sea, Portsmouth, N. H.  
 Oct. 1-2—Textile Quality Control Association fall meeting. Grove Park Inn, Asheville, N. C.  
 Oct. 3—Georgia Textile Operating Executives fall meeting. Georgia Tech, Atlanta, Ga.  
 Oct. 14—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.  
 Oct. 7—Chemical-Finishing Conference, sponsored by National Cotton Council. Mayflower Hotel, Washington, D. C.  
 Oct. 7-9—AATCC annual convention. Sheraton-Park and Shoreham Hotels, Washington, D. C.  
 Oct. 8-9—N. C. Textile Manufacturers Association annual convention. Carolina Hotel, Pinehurst, N. C.

Oct. 8-9—Southern Textile Methods & Standards Association fall meeting. Clemson House, Clemson, S. C.  
 Oct. 10—Alabama Textile Education Foundation meeting. Student Union Building, Auburn, Alabama.  
 Oct. 10—Alabama Textile Operating Executives fall meeting. Langdon Hall, Auburn, Ala.  
 Oct. 16—AATCC Northern New England Section meeting. Lexington Inn, Lexington, Mass.  
 Oct. 17—Textile Education Foundation, Inc. annual meeting. A. French Textile School, Atlanta, Ga.  
 Oct. 27-28—Institute of Textile Technology. Meeting of Technical Advisory Committee and Board of Trustees. Charlottesville, Va.  
 Nov. 4—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.  
 Dec. 2—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.

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Jan. 6—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.  
 Feb. 2-4—SPI Reinforced Plastics Division conference. Edgewater Beach Hotel, Chicago, Ill.  
 Feb. 3—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.  
 Feb. 8-9—National Cotton Council annual convention. Dallas, Texas.  
 Mar. 2—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.  
 Apr. 7-9—American Cotton Manufacturers Institute annual convention. American Hotel, Bar Harbor, Fla.  
 May 23-27—American Textile Machinery Exhibition. Auditorium, Atlantic City, N. J.  
 Jun. 23-25—Southern Textile Association annual convention. Grove Park Inn, Asheville, N. C.

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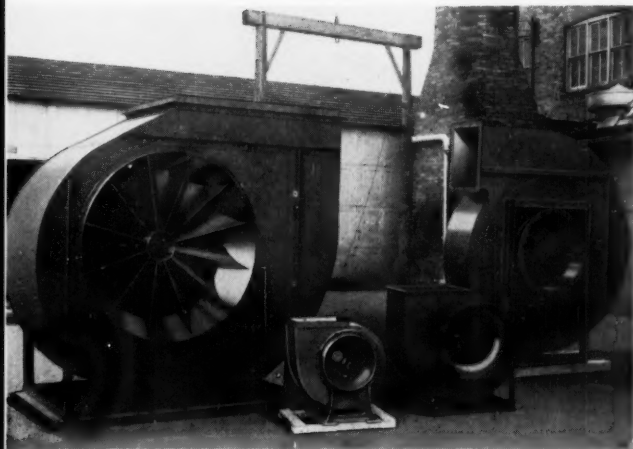
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